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THREE STEPS IN THE TUBERCULOUS PROCESS IN CHILDREN.

By DAVID BOVAIRD, Jr., M. D.

As an introduction to the paper which I have the honor of presenting this evening, it seems proper to state that our facts are drawn from observations made in the autopsy room and wards of the New York Foundling Hospital. The children under the care of that institution range, as a rule, from birth to five years in age. Occasionally, for some adequate reason, a child is kept beyond the latter age, but the number of older children is very small. Between five and six hundred of the children are regularly kept within the institution itself; a hundred and sixty are at the country home; the remainder, about thirteen hundred, are cared for by nurses living in various parts of the city and its suburbs. Infants below the age of one year are nursed, either in part or in whole. Beyond that age the children are artificially fed. Inasmuch as more than three fifths of the children are cared for outside the institution itself, in the humblest homes of the city, it seems fair to assume that whatever peculiarities in the life history of the remainder might be due to the surroundings and regulations of institution life are fairly neutralized, and the conditions found from observation of the material met with in the hospital may doubtless be considered as fairly representative of those prevailing among the children at large in this community.

Turning now to our subject, we take up:

1. *The Primary Lesion in Tuberculosis in Children.*—In 1891 Northrup published in the *New York Medical Journal* an article entitled Tuberculosis in Children: Primary Infection in the Bronchial Lymph Nodes. In a series of a hundred and twenty-five autopsies on tuberculous subjects he had found thirteen cases in which the tuberculous lesion was confined to the bronchial lymph nodes; nine in which the tubercles of the body were limited to the bronchial nodes and lungs, the latter containing only discrete, glassy, miliary bodies, while the bronchial nodes were far advanced in the degenerative process; forty-two cases of general tuberculosis in which the only cheesy masses were in the bronchial lymph nodes; twenty cases of general tuberculosis in which the oldest lesion was in the respiratory tract.

Of the series of a hundred and twenty-five cases, he considered eighty-eight as examples of primary infection of the bronchial lymph nodes, and three of primary infection of the mesenteric lymph nodes; thirty-four were indeterminate.

This paper having served to focus attention upon the subject, since that time (1891) every case of tuberculosis occurring in the hospital has been carefully searched for further evidence along this line. The contribution made this evening is based upon the records of a further series of seventy-five autopsies on tuberculous subjects in the same institution. In passing, we may note that these seventy-five cases of tuberculosis were found in a total of six hundred and sixty-five autopsy records, a proportion of eleven per cent.

Of this total of seventy-five, four patients showed a tuberculous lesion of the bronchial nodes alone. Of these, one died at the age of three years, of laryngeal diphtheria requiring intubation; one at the age of four years, of a succession including whooping-cough, measles, diphtheria, and gangrene; the third, at the age of five months, after an illness of a month, due to otitis media; the fourth, when four years old, of an acute purulent peritonitis. In none of these cases did the tuberculous lesion stand in direct relation to the cause of death. In no other cases was the tuberculous lesion confined to one particular anatomical area (exception). In one case the tuberculous lesions were confined to the bronchial and mesenteric lymph nodes, there being no indications to determine the question of priority. In no case were tuberculous lesions of the intestines or mesenteric nodes discovered without accompanying tuberculous lesions of the lungs and bronchial lymph nodes. Only in the four cases above cited can we put the finger immediately upon the primary lesion, yet in the great majority of cases we can at least determine the tract within which the primary lesion must have lain. There are four avenues or portals by which the tubercle bacillus may be admitted to the system: 1. The placenta. 2. Wounds of the surface of the body. 3. The intestinal tract. 4. The respiratory tract.

In none of our cases do we find evidence of the entrance of the tuberculous infection by either of the two first routes. The question lies between the intestinal and respiratory tracts. Studying our cases with reference to this question, we find the tuberculous lesions in bronchial nodes alone, 4 cases; bronchial nodes and lungs, 16 cases; bronchial nodes, lungs, and bones, 3 cases; bronchial nodes and bones (without lungs), 1 case; bronchial nodes, lungs, and other viscera (general miliary tuberculosis), without lesion of intestines or mesenteric nodes, 20 cases; bronchial nodes, lungs, etc. (general miliary tuberculosis), with lesions of intestines or mesenteric nodes, advanced changes (cavities) being in the lungs, 16 cases; bronchial nodes and mesenteric nodes or intestine with slight changes in lungs (miliary tubercles), 7 cases; bronchial nodes, lungs, etc. (general miliary tuberculosis), without note of condition of intestines or mesenteric nodes, 7 cases; bronchial nodes and mesenteric nodes without other tuberculous lesions, 7 cases—total, 75 cases.

That is, in no case in which tuberculosis was present

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in the body did we fail to find tuberculous lesions of the bronchial nodes. In the twenty cases of general miliary tuberculosis without lesion of the intestine or mesenteric nodes, not only can we infer that the respiratory tract was the portal of entry, but the inference is supported by indubitable evidence in the character of the tuberculous lesions present in the various organs, the advanced tuberculous changes, caseous or calcareous degeneration or cavities, being present in the bronchial nodes or lungs; while in the other viscera we find either fresh miliary tubercles alone or associated with other evidences of recent processes, such as the fibrinopurulent exudate that so often accompanies tuberculous meningitis. Exception may here be made of the cases in which the bones were involved. The relative age of lesions of the bones and soft parts it is not easy to calculate, but when we find tuberculous lesions of the bones associated with tuberculosis of the bronchial lymph nodes or lungs, and no tuberculous lesion elsewhere, it is not difficult to judge as to the original seat of disease apart from the gross appearances of the lesions.

Likewise, in the cases in which we find caseous mesenteric glands accompanying the presence of tuberculous cavities in the lungs of children who have not yet acquired the ability to expectorate, it seems only a fair inference that the lesion of the intestine has probably been caused by the swallowing of bacilli coughed up from the affected parts of the lungs, but not expectorated.

We have, therefore, in sixty of our seventy-five cases evidence that the entrance of the tuberculous infection took place through the respiratory tract, the primary lesion being either in the lungs or bronchial lymph nodes. In eight cases the lesions of the bronchial and mesenteric lymph nodes were so nearly alike that the question of priority could not be determined. In seven cases the records stated distinctly that the bronchial lymph nodes were found tuberculous; but, as there was no clear statement of the examination of the mesenteric nodes or intestine, we have not cast them in either scale. In not a single case was there definite evidence of infection by the intestinal tract alone (exception noted). We have already cited one case in which both bronchial and mesenteric lymph nodes were found caseous without other tuberculous lesions. It vould seem that in this case the bacilli must have been admitted both to lungs and intestines at about the ame time.

Briefly summarized, therefore, we have: Infection by espiratory tract, 60 cases; infection by either respiraory or intestinal tract, 8 cases; infection by respiratory tract (records incomplete), seven cases, total seventy-five cases.

Early Clinical Manifestations.—In seeking to make definite statements on this point, we find that we have a much more difficult problem to deal with than that of determining the primary seat of disease from pathological investigation. Some few points are, however, fairly clear.

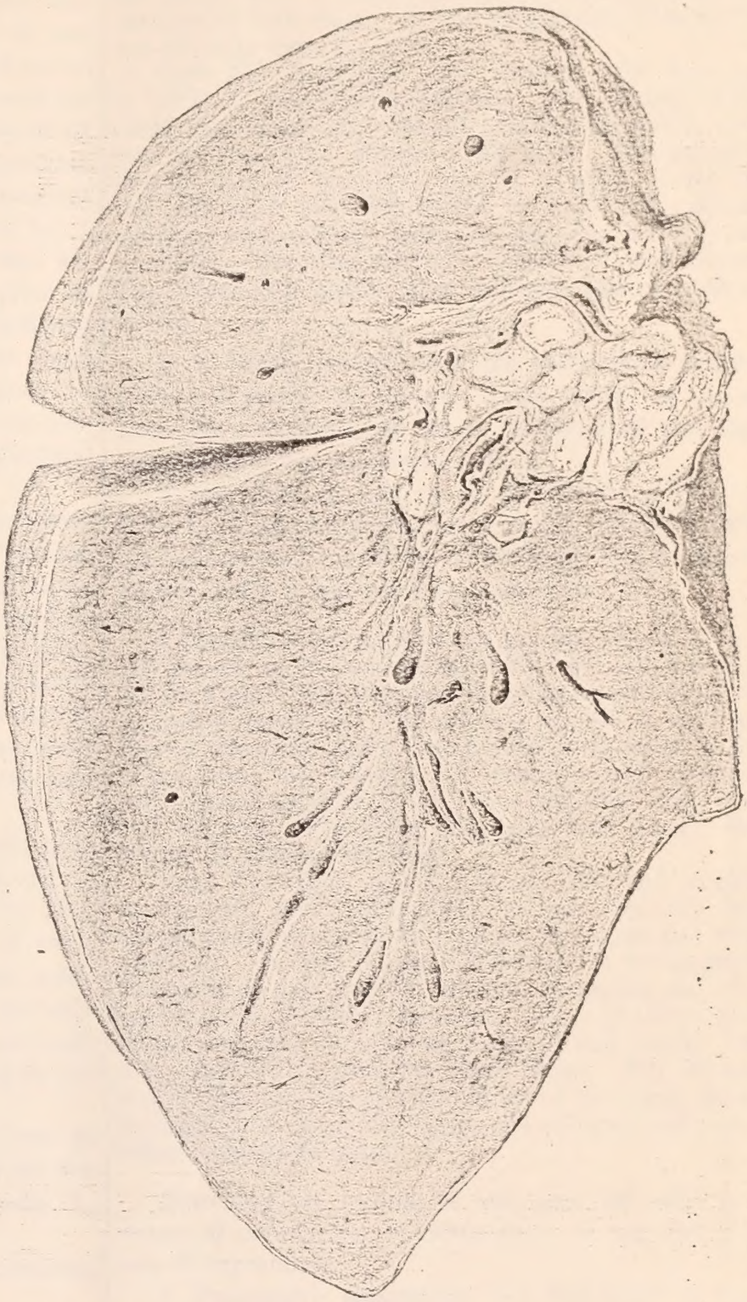

Fig. 1* (natural size).—Section through a lung having at its root a group of enlarged and cheesy bronchial lymph nodes; the specimen otherwise normal.

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* This and the three following plates are reproduced by permission from Dr. W. P. Northrup's article, Tuberculosis in Children; Primary Infection in Bronchial Lymph Nodes, *New York Medical Journal*, February 21, 1891.

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In the cases in which the bronchial nodes alone were affected no suspicion of the presence of tuberculosis was entertained until the lesion was discovered at autopsy. The children died of intercurrent disease, bearing no relation to the affection of the bronchial lymph nodes. Until the intervention of other disease there had been nothing to call special attention to the condition of the children or mark them as sickly in any way. We may go farther and say that even had examination been made for the presence of such tuberculous foci, it is extremely improbable that any evidence of its presence would have been detected. In our experience the cases in which the presence of enlarged bronchial or mediastinal glands can be demonstrated form but a very small percentage of the cases in which they are actually present. The physical signs usually given as indicating their presence we regard as rarely sufficient to serve practical purposes. Dullness over the upper part of the sternum, even if present, is more often due to the persistence or enlargement of the thymus than to the presence of enlarged bronchial or mediastinal nodes.

The presence of a venous hum heard over the manubrium on hyperextension of the head is a sign we have rarely found of any value. The same is true of modifications of the respiratory murmur in the interscapular region. If one reflects on the deep situation of these nodes—that behind them we meet with the solid vertebral column; that the hollow tubes of the trachea and bronchi run between them, while in front they are normally overlapped by aerated lung—the difficulties in the path of physical diagnosis are apparent.

In the services of Dr. O'Dwyer and Dr. Northrup at the Foundling Hospital the diagnosis of tuberculous bronchial lymph nodes has never been made. In fact, the physical signs above mentioned can be of value only in the presence of great masses of enlarged nodes, a condition rarely met with in children at the ages with which we are dealing. It may here be in point to give in detail the ages of the cases comprised in our tables:

Birth to one year, 27; one to two years, 15; two to three years, 6; three to four years, 15; four to five years, 6; six to seven years, 1; seven to eight years, 1; age not given, 4—total, 75.

Fifty-six per cent. of our patients were, therefore, below the age of two years.

Tuberculosis, long latent in the bronchial glands, may be roused and disseminated under the influence of the intervention of an acute infectious disease, the symptoms of the latter entirely masking the presence of tuberculosis.

To illustrate this point, we may quote the following cases:

Case I.—Girl, aged three years. For four months she had had tuberculous disease of the tarsus. On March 22, 1896, she developed measles, which ran a normal course for a week. She then developed diphtheria (March 29th), and was given antitoxine. While recovering from this, colitis supervened, the temperature assumed the hectic type, and the child failed steadily, dying April 10th. Total illness, nineteen days. The autopsy showed evidences of diphtheria in the larynx, and caseous bronchial nodes and miliary tubercles in the lungs, with a bronchopneumonia of the posterior portions of both lungs. A deep congestion of the colon was the only intestinal lesion.

Case II.—Boy, aged eight months. On January 5, 1897, he developed diphtheria. On January 8th, three days later, he developed bronchopneumonia, and died on the 11th. Illness of six days. The autopsy showed caseous bronchial glands, a small cavity in the left lower lobe surrounded by numerous caseous nodules, with miliary tubercles scattered throughout the lungs. The colon showed a number of small ulcers. The mesenteric glands were enlarged but not tuberculous.

It is hardly credible that the tuberculous process could have made such advances in the six days of illness from the diphtheria, yet up to the onset of that disease the child was considered well.

Tuberculosis in infants, in its clinical manifestations, is usually an acute, not a chronic, disease; often the outbreak and course are astonishingly rapid. Again we may refer to our cases for examples.

Case III.—Girl, aged eleven months. Until a week ago she was in the hospital perfectly well, and was sent out to nurse. Was returned in collapse, and died the following morning. The autopsy showed a mass of caseous bronchial nodes; many miliary tubercles in the lungs, liver, and spleen. The intestines and omentum were matted together by adhesions and filled with miliary tubercles. The Falloppian tubes were greatly distended by caseous material.

Case IV.—Girl, aged two years. She had measles in January, 1897. Afterward she was very pale, but seemed fairly well. On July 1st she was taken sick with diarrhœa. On July 3d she was brought to the hospital. Temperature was 105° F.; abdomen distended and very tender; spleen felt; extremities cold; constant diarrhœa; petechial eruption on forehead and trunk. On July 4th she died, after four days' illness. The autopsy showed general miliary tuberculosis of the lungs, hæmorrhages in the ascending colon, and enlarged and tuberculous mesenteric nodes.

Searching the records of our cases for early evidences of the invasion of tuberculosis, we can find only two of importance.

1. Progressive emaciation, not explained by any other disorder.

2. Continued elevation of temperature similarly conditioned.

Progressive emaciation (marasmus) in the early months of life, without demonstrable lesion, is, as we all know, very common. Beyond the age of six months it is uncommon. In fact, it has become a recognized practice that any child over the age of six months presenting symptoms of marasmus should be carefully watched and examined for some explanation of the wasting. Frequently, tuberculosis is the cause finally determined.

Persistent fever, not otherwise explained, is also very suggestive. Under the age of two years it is all the more suggestive by reason of the relative rarity of typhoid fever at that age. In fact, we need hardly put the age limit at two years, for thus far we have never met with typhoid fever in the Foundling Hospital. The temperature found in cases of general tuberculosis in children varies greatly. It may run as high as 103°–104° F., or may not exceed 100°–101° F. throughout the course of the disease. We may even meet with cases which run their course without fever, or even with subnormal temperatures.

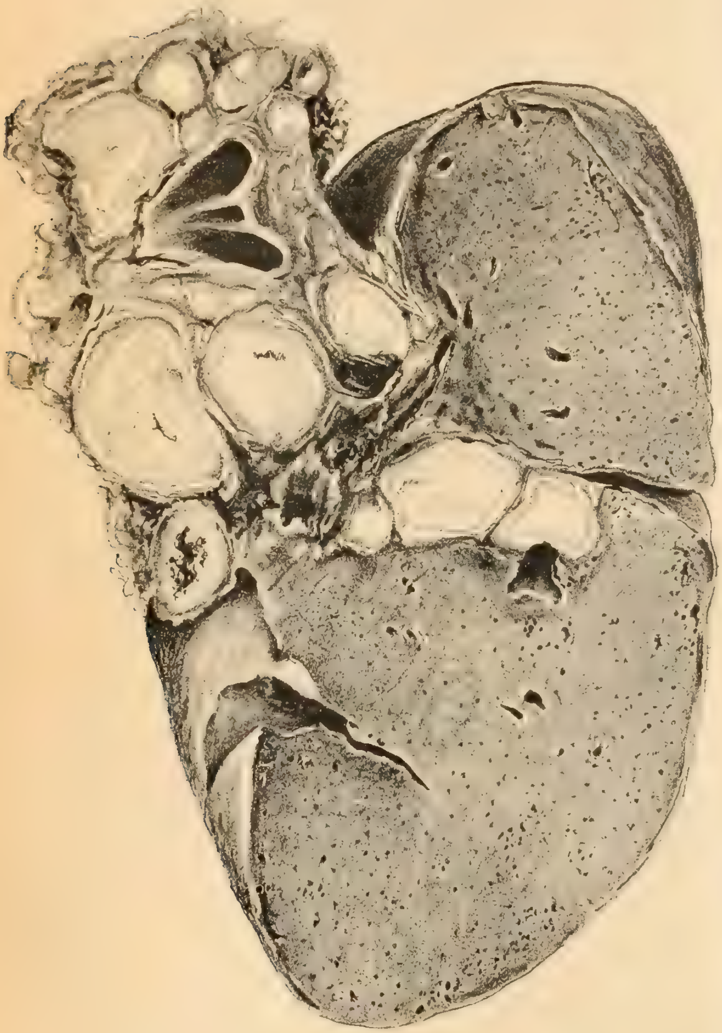


FIG. 2 (natural size).—Section through a large mass of cheesy nodes grouped about the bifurcation of the trachea and the root of the lung, also cheesy masses reaching into the lung. Two bronchial nodes show beginning softening at their centres, and below them there is one smaller node containing a chalk mass.

If local signs are to be found, we must seek them in the lungs. In our seventy-five autopsies the lungs were involved in sixty-five cases.

The lesion varies from scattered miliary tubercles to diffuse consolidation of the whole lobe or an entire lung, with caseous degeneration and cavities in the final stages.

The early manifestations arise, as a rule, from disseminated foci in the lungs. The physical signs are confined to râles, usually subcrepitant or coarse. Only in the later stages do we expect to find evidences of consolidation. We shall not at this time attempt to enter into the difficult subject of the differential diagnosis between simple and tuberculous bronchopneumonia.

We must frankly admit the insufficiency of the points suggested for the diagnosis of the invasion of tuberculosis. They may suggest the possibility of the presence of tuberculosis; they do not differentiate it. A number of tuberculin tests which have been made in the Presbyterian and the Foundling hospitals have failed to give satisfactory results, but the number is too small for any final judgment. The truth is that the great majority of cases of tuberculosis in young chil-

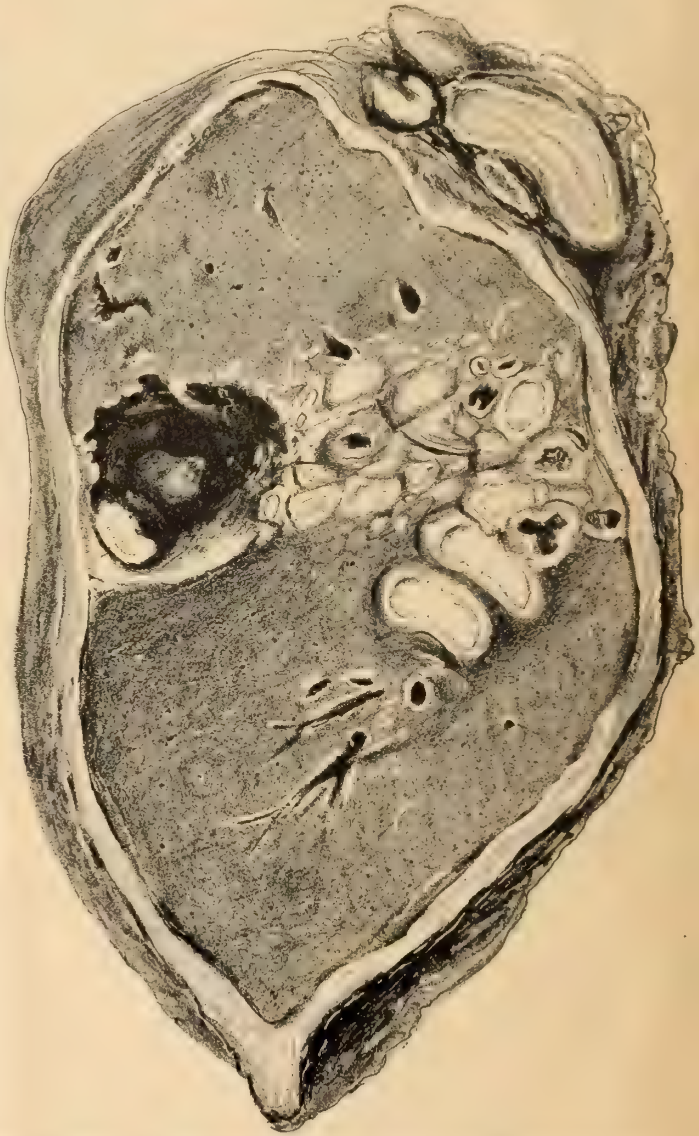


FIG. 3 (natural size).—Section through cheesy lymph nodes in the lung, near its root, also neighboring cheesy masses: at the periphery, a cavity. The entire lung is surrounded with dense, thickened pleura.

dren die without recognition, often without suspicion of the presence of tuberculous lesions. The course of tuberculosis in children is most often confused with chronic bronchopneumonia or enterocolitis.

Complications and Terminal Lesions.—We find these either in the extension and intensification of the local process in the lungs and bronchial lymph nodes, or in the general diffusion of the tuberculous infection. In some cases the softening and formation of abscesses in the bronchial lymph nodes have led to death either by extension of the process to the lung or by rupture of the abscess into either the œsophagus or the trachea. Recently an example of the latter accident was met with, the child dying within a few minutes from suffocation.

More commonly the progress of the disease within the lungs leads to the formation of large areas of tuberculous consolidation and finally cavities, the child dying of exhaustion. Cavities were found in twenty-five cases of our series.

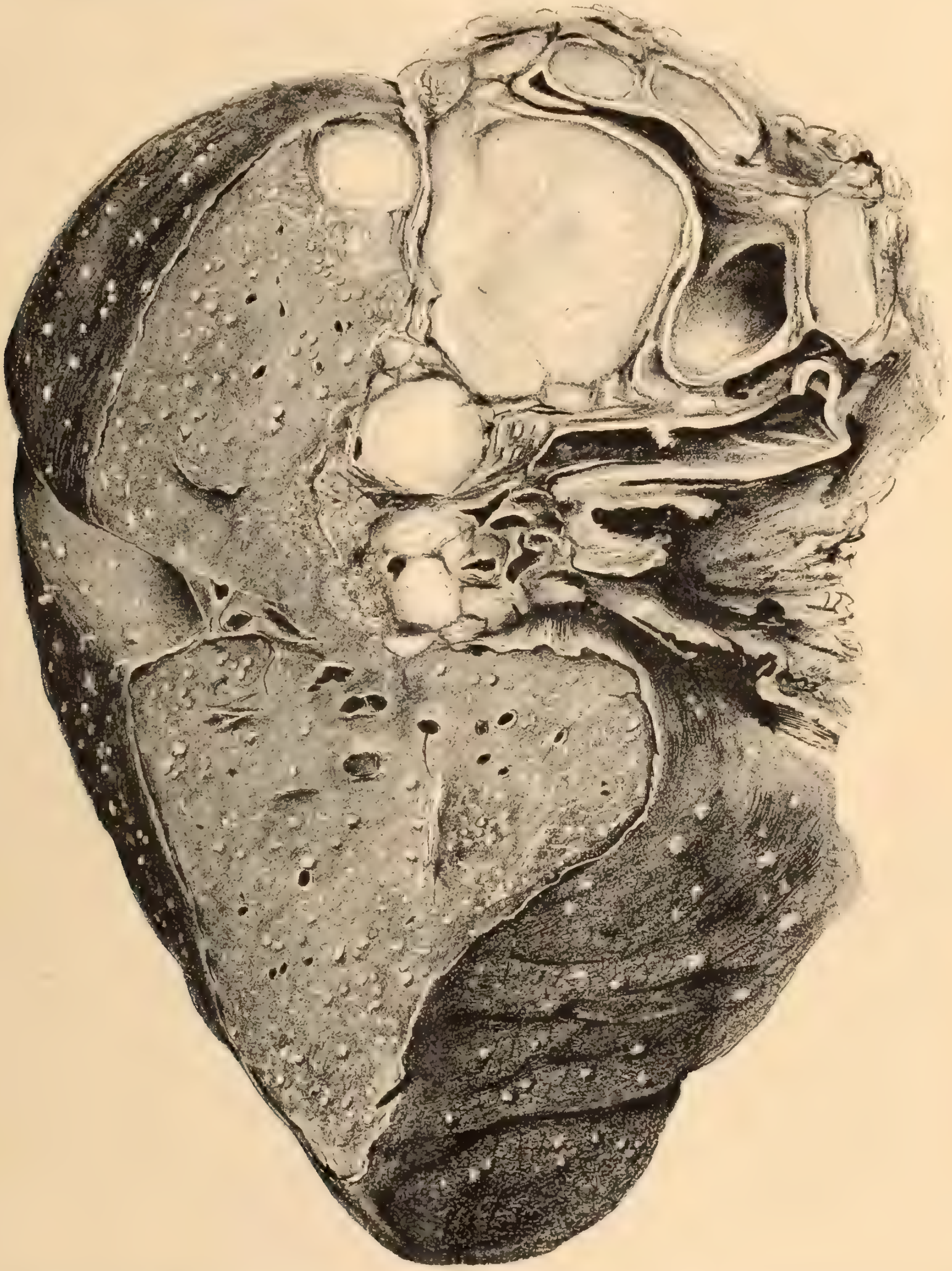


FIG. 4. (natural size).—Section through a mass at the root of the lung, made up of enlarged cheesy nodes, blood-vessels, and bronchi; also through cheesy masses within the lung The illustration represents the specimen faithfully; the cut surface and the pleura show discrete miliary tubercles, those of the pleura standing out in strong contrast upon the background of congested membrane.

The final stage is most often reached by the dissemination of the tubercular infection. We find a general miliary tuberculosis recorded in fifty-two cases.

We know little of the process by which this dissemination is brought about. Evidently it may occur by the communication of a caseous nodule in the bronchial nodes or lungs either with the blood-vessels or lymphatics. Whether it is by rupture into a blood-vessel or whether, after the bronchial nodes are fully charged, bacilli may be able to pass through them, we do not know. At any rate the dissemination is usually general and complete. Thus we find the kidney involved (meaning the presence of miliary tubercles) in 13 cases; spleen, 37 cases; liver, 28 cases; heart, 1 case; pericardium, 2 cases; peritonæum, 6 cases; adrenals, 2 cases; brain, 22 cases.

The last is the important item. In twenty-two cases we found tuberculous meningitis. In some few cases this was limited to the presence of miliary tubercles; in most, the miliary tubercles were accompanied by more or less plastic exudation, especially at the base of the brain. We may safely say that in all these cases the meningitis was the direct cause of death.

In addition to the complications thus far mentioned, we need only say that in two cases, where the chief lesion was confined to the bones and was accompanied by prolonged suppuration, we found extensive waxy degeneration of the viscera.

In all but two cases meningitis was either a part of a general miliary tuberculosis or was accompanied by advanced changes in lungs—hopeless.

To summarize briefly the points we have endeavored to make:

1. The primary lesion of tuberculosis in children is regularly in the bronchial lymph nodes or lungs. Combining Northrup's series with those described in this paper, we have:

	Northrup.	Bovaird.	Total.
Infection by respiratory tract (lungs or bronchial nodes)	88	60	148
Infection by mesenteric lymph nodes	3	0 ?	3
Indeterminate	34	15	49
	125	75	200

2. As to early manifestations of tuberculosis in children, these are extremely indefinite and uncertain.

a. Tuberculous infection of the bronchial lymph nodes, as a rule, can not be diagnosticated.

b. Latent tuberculosis is often roused and disseminated by the invasion of another disease (infection), such as measles, diphtheria, etc., the presence of tuberculosis not being suspected.

c. The common type of tuberculosis in children is acute miliary tuberculosis—it may occur in well-nourished infants.

d. The course of tuberculosis is most often confused with chronic bronchopneumonia or enterocolitis.

e. The early manifestations are progressive emaciation, fever, and the presence of râles over the lungs. These are insufficient for purposes of distinction.

3. The terminal lesions include—

a. Extension of the tuberculous process in the bronchial lymph nodes and lungs, resulting in the formation of abscesses, cavities, etc.

b. Diffusion of the tuberculous infection, constituting acute miliary tuberculosis, the principal viscera being affected in the following order: Spleen, liver, brain, kidney, heart. The involvement of the brain is most important, the meningitis being regularly fatal.

c. When bone is involved and there is prolonged suppuration, waxy degeneration of the viscera may occur.

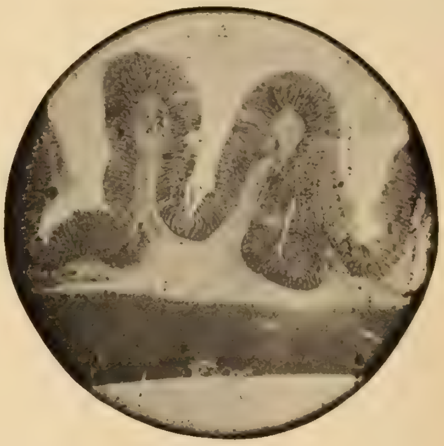
SHADOWGRAPHS
OF THE INTESTINAL VILLUS OF THE CAT.

By J. W. HARTIGAN, A. M., M. D., F. R. M. S. Lond.,
PROFESSOR OF BIOLOGY IN THE WEST VIRGINIA STATE UNIVERSITY, MORGANTOWN.

I present herewith one photomicrograph and two projection shadowgraphs of the intestinal villus of the cat.

These specimens were prepared by the celloidin method and stained with eosin and hæmatoxylin.

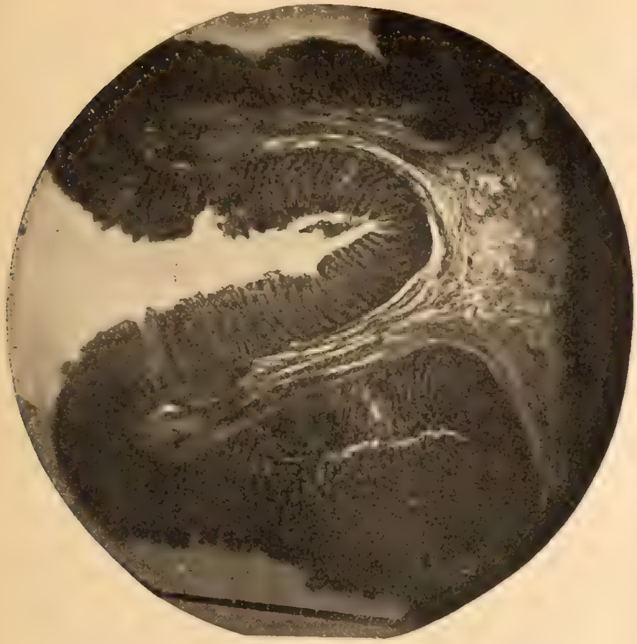
The specimens are interesting on account of the marked superiority of the shadowgraphs over the ordinary photomicrograph in point of detail.



The large images were thrown upon a screen by the projection microscope at a distance (focal) of fifteen feet and six inches, and the image then photographed with a camera obscura, with the accompanying result.

From this negative transparencies are made which are thrown upon the screen, at the same distance, by the lantern attachment, producing images characterized by greater brilliancy than is possible with the microscopic attachment. These images are then photographed, producing photographs with better detail than is possible with the microscopic treatment alone.

For structures—nerve cells, blood-corpuscles, and tissue elements—too small to come well within the focal distance of the objective of the projection apparatus, photomicrographs of the ordinary sort are made, the negatives of which are used directly by the projection microscope as original objects for screen images to be photographed by the camera obscura; or these photomicrographic negatives are used to make transparencies, which are thrown upon the screen by the lantern attachment and subjected to the camera obscura, as in the case of the projection microscopic images.



This is an admirable method of preserving, in photographs, the histological structure of animal and vegetable tissues with an accuracy and amplification not possible with the usual laboratory methods. Even the most nearly perfected and improved camera lucida in the hands of an artist microscopist is in no wise a competitor in record accuracy. A glance at this villus will show the incomparable superiority of the method over those used to produce the most elaborate illustrations to be found in the proudest text-books of our time.

ON THE IMPORTANCE OF
AN OPERATION IN THE FIRST STAGE OF THROMBOSIS OF THE SIGMOID SINUS
(FOLLOWING ACUTE PURULENT OTITIS MEDIA),
*WITH A REPORT OF THREE CASES.**

By GORHAM BACON, M.D.,
PROFESSOR OF OTOLOGY IN CORNELL UNIVERSITY MEDICAL COLLEGE, NEW YORK.

Mr. President and Gentlemen: I wish to call your attention this evening to the importance of operating early in cases of thrombosis of the sigmoid sinus, of otitic origin, and to report three successful cases which came under my observation.

Case I. *Acute Purulent Otitis Media, followed by Inflammation of the Mastoid Cells and Thrombosis of the Sigmoid Sinus; Operation; Recovery.*—The patient, Harry K., seven years old, had had a chronic discharge from the right ear for some time, and a year ago I removed the remnant of the drumhead with the carious ossicles. This was followed by a cessation of the discharge. On January 17, 1898, he had an earache on the left side, following an attack of amygdalitis. The pain continuing, I was called in by the family physician to see him on January 19th. At that time the inner end of the external auditory canal was so swollen that it was difficult to see the drumhead. Chloroform was administered, and I incised the membrana tympani and also the swollen walls of the canal. Leeches were applied just in front of the tragus and over the mastoid region, as there was considerable tenderness on pressure over the mastoid process. The ear was ordered syringed every two hours with a warm boric-acid solution, except that twice during the day a bichloride solution was substituted for the boric-acid solution. The Leiter coil was also applied.

January 20th.—Less pain. A sticky yellowish discharge appeared. The patient had some elevation of temperature, and the pulse was 115 to 120.

22d.—The patient seemed to be doing well until today, when the temperature at noon was 103.8°. F., pulse 140. At this time he was very dull and inclined to sleep. The ice coil had been kept on for forty-eight hours, and was then removed. He had no pain to speak of, except tenderness on pressure over the mastoid cells.

5 P. M.—Patient etherized, and, assisted by Dr. Townsend and Dr. Whiting, I made the usual incision over the mastoid process and opened the cells, removing softened bone and granulations, but very little pus. An opening was made into the antrum and the cells were thoroughly removed to the tip. The bony wall covering the sigmoid sinus was removed, and the sinus seemed to be normal in appearance. Before the operation the temperature was 104.2° F. in the rectum, and two hours later 102° F.

23d.—The temperature again rose to 104.4° F. (rectal) at noon to-day. The patient was seen in consultation to-day with Dr. Starr at 6 P. M., and at that time seemed much brighter and improved in every way, and at 11 P. M. the temperature had fallen to 100.8° F. Calomel was given at this time, and was also administered three days previously.

January 24th.—The temperature gradually rose again, and at 9.45 A. M. the patient had a chill lasting twenty minutes, when the temperature was taken and recorded at 103.4° F. The patient after the chill was stupid and drowsy, and a diagnosis of sinus thrombosis was made. There was considerable œdema about the tip, especially in the soft tissues posterior to it.

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* Read before the Society of Alumni of Bellevue Hospital, April 5, 1899.

3 P. M.—Again assisted by Dr. Townsend and Dr. Whiting, I enlarged the incision which I had previously made in the mastoid region by carrying the incision forward over the auricle and thus dividing the anterior temporal artery. At the lower portion of the wound I carried the incision directly backward. I then removed sufficient bone to examine the dura in the middle cerebral fossa, but found no pus over the tympanic roof. I then cut away with rongeur forceps sufficient bone to uncover the sigmoid sinus for a space of two inches, in order to be able to control the hæmorrhage when incising the sinus. The bone was found soft in the direction of the jugular bulb, posterior to the mastoid tip.

The outer and anterior wall of the sinus seemed normal in appearance in the upper portion, but in the lower portion, near the bulb, it was hard and tough. While firm pressure was made over the lower portion of the sinus, an incision was made with a scalpel into the upper portion. At this point there was a free and instantaneous flow of blood, which was easily controlled by plugging with iodoform gauze. In the lower portion not only was the outer wall found dense, but, after an incision was made, the blood flowed much less slowly, so that it was necessary to remove a soft parietal clot with a curette in order to reestablish the blood current. A plug of iodoform gauze was applied, and the wound filled with strips of iodoform gauze over which several layers of bichloride gauze were laid. Then absorbent cotton and a bandage were applied.

During the operation it was necessary to administer strychnine, and immediately afterward enemata of the normal saline solution were given. The patient rallied well from the operation and made an excellent recovery. The hearing distance on the left side is at the present time considerably impaired, although the incisions made in the drumhead have entirely healed.

CASE II. *Acute Purulent Otitis Media, followed by Mastoid Disease and Thrombosis of the Sigmoid Sinus; Operation; Recovery.*—Charles S., seven years of age, was admitted to the infirmary January 28, 1899. Previous history: He had measles several years ago and scarlatina two years ago. Ten days ago he had an attack of influenza, and five days later the left ear began to pain and to discharge. He came to the clinic to-day for the first time with marked symptoms of mastoid disease, as shown by pain on pressure over the mastoid process. The drumhead had but a small perforation, so that a free incision was made and the Leiter coil applied. The ear was ordered irrigated every two hours with a mild bichloride solution, and the patient was given small doses of calomel.

January 29th.—General condition of patient improved, although pulse is weak, varying from 90 to 140. Temperature, 101.5° F.

31st.—The temperature yesterday rose to 103.6°, but to-day it has been lower, until this afternoon, when it began to climb up again. As there was considerable mastoid tenderness, an operation was decided upon. Under ether, the usual incision behind the auricle was made, extending from the extreme tip to a point half an inch above the attachment of the pinna. The periosteum was loosened from the bone, and an opening made in the mastoid process down to the antrum and tympanic cavity. The entire contents of the mastoid, consisting of softened bone and granulation tissue, were removed, but the sigmoid sinus was not exposed. The wound was dressed in the usual way.

February 1st.—Patient's condition worse. The temperature rose gradually to 105.8° F., pulse 146; child was dull and listless, and complained of pain about the wound. Thrombosis of the sigmoid sinus was diagnosticated and an operation suggested, but the parents would not consent until the following day.

2d. Operation.—The incision made for the mastoid operation was continued upward for an inch, and another incison was made backward from about the middle of the mastoid wound so as to give space enough to uncover the sigmoid sinus. The latter was exposed from near the bulb upward for an inch and a half. Considerable softened bone was found, especially around the tip and bulbar region, with some pus. The sigmoid sinus was opened and free bleeding established from both ends. From the lower end toward the bulb the sinus wall was scraped with a curette and a parietal thrombus was removed. During this operation the patient's condition required constant watching, as the pulse became weak. Hypodermics of strychnine and whisky were given and oxygen gas was administered. The normal saline solution was also injected into the median cephalic vein of the right arm.

3d.—The patient had a good night and his general condition was much improved. The temperature did not go above 102.6°.

4th.—Temperature normal at 9 A. M., but it gradually rose to 102.4° at midnight.

10th.—The temperature was practically normal after February 7th, and the patient made an excellent recovery.

CASE III. *Acute Purulent Otitis Media, followed by Mastoid Disease and Thrombosis of the Sigmoid Sinus; Operation; Recovery.*—Dora C., a Russian, aged nine years, admitted to the New York Eye and Ear Infirmary December 13, 1898. She gave no history of any previous illness. Eight days ago the child first had pain in the right ear, which was very severe, and for two nights she had been unable to sleep. Yesterday her mother first noticed a swelling in the post-auricular fold and in the neck just below the lobule. No discharge had been observed from the canal.

An examination of the ear showed a decided bulging of the drumhead, with redness and a drooping of the soft parts of the posterior superior wall of the canal. The tissues over the mastoid process and in the neck below the lobule were swollen and œdematous.

Operation.—Under ether, the usual mastoid incision was made behind the auricle, and pus was evacuated from beneath the periosteum. Considerable pus escaped, after which an opening was found in the cortex leading to the antrum. This sinus was enlarged, and the entire contents of the mastoid process were removed down to the tip. The inner wall of the mastoid was found absent, so that the sigmoid sinus was disclosed and found covered with granulation tissue, which was carefully scraped away. The entire mastoid tip, and also the softened bone, were removed. The sinus seemed to be soft and pulsated. The wound was irrigated with a bichloride solution (1-to-3,000) and then packed with iodoform gauze and bandaged in the usual way.

December 16th.—The temperature has shown many variations since the operation. On December 14th it reached 105.4° F. (rectal). From 10 P. M., December 14th, the temperature came down gradually to 99.6° F. at 10 A. M., December 15th, only to rise again steadily until it reached 106.2° F. at 4 P. M. The patient had a slight chill on the following day, and an operation for sinus thrombosis was decided upon at once.

On December 16th ether was given. The dressings were removed and the sigmoid sinus was uncovered. More bone was cut away, so that the bleeding from the sinus could be controlled. The sinus was compressed from above and below, and an incision was then made in the sinus wall between these two points. A large thrombus was removed with curettes and the blood current freely established above. At the lower end, toward the bulb, the blood flowed but slowly even after a curette was passed downward toward the bulb as far it could go. Although the thrombus had begun to break down and a drop of pus was found at its lowest extremity, it seemed better to me not to prolong the operation by ligating the internal jugular vein. After incising the sinus, it was plugged with iodoform-gauze tampons and the usual dressings were applied.

17th.—After the operation the temperature gradually fell to 100° F., but rose steadily again to 103.4° F. On the 18th the temperature fell to normal. On the 19th the temperature reached 102° F., but after this it was practically normal. From this time on the patient steadily improved, and on December 27th she left the hospital, but was to return to the out-patient department to have the wound dressed.

A study of the temperature charts of these three patients shows a decided rise and fall in the temperature, which is quite characteristic of sinus thrombosis.

In two of these cases there was a chill of moderate intensity followed by a rise of temperature. In one case the temperature rose to 105.3° F., in the second to 105.8° F., and in the third to 106.3° F.

Intestinal catarrh and pneumonia, either one of which is likely to occur in a child suffering from acute purulent otitis media following the influenza, may give rise to considerable fever, and thus occasion much difficulty in making a diagnosis of thrombosis.

If the mastoid cells have been thoroughly removed with all diseased tissue and the patient suddenly has a chill (in some cases so slight that it is likely to be overlooked), followed by a rise of temperature to 104° to 106° F., and other complications can be excluded, the diagnosis can almost certainly be made of sinus thrombosis, especially if there is tenderness along the neck over the internal jugular vein and there is a more or less œdematous condition of the tissues below and behind the mastoid tip, and extending over the point in the skull where the mastoid vein enters.

The practice of giving some remedy, such as antipyrine or phenacetine, to reduce the temperature in a patient suffering from suppurative otitis media or mastoid disease, should always be condemned, as it is of special importance to make a diagnosis of sinus thrombosis at as early a stage as possible if an operation is to be performed. If the temperature is due to sinus thrombosis, such remedies, if used, are valueless, and only mask the symptoms.

Calomel should be given in one-tenth-of-a-grain tablets every hour until a cathartic action is produced, and is a remedy that should be administered in the early stage.

Pain is not a prominent symptom, and frequently is but little complained of, although in some instances it may be excruciating and radiate over the side of the head. As the mastoid cells are usually affected at the same time, there is apt to be considerable pain on pressure over different portions of the mastoid, especially in the neighborhood of the antrum and tip.

If the thrombus invades the cavernous sinus and the ophthalmic vein has become engorged, there may be a certain amount of œdema of the eyelids on the corresponding side.

A symptom that is quite frequently noted in the early stage is the anxious and pallid appearance of the patient, who has beads of perspiration standing out on the face and forehead.

In all three cases reported the patients seemed dull and inclined to sleep, and the pulse of each patient was rapid, varying from 110 to 150. Other symptoms of sinus thrombosis are enlargement of both superficial and deep cervical glands, but this is not constant; overdistention of the mastoid vein, and tenderness on pressure along the course of the internal jugular vein, although this is usually observed in a later stage. Neuroretinitis is noticed in some cases, more especially in the later stages, but is by no means a constant symptom.

Still other symptoms are nausea, vomiting, vertigo, and constipation. In the later stage, when the thrombus has broken down and septic poisoning has occurred, there may be rigors, sweating, diarrhœa, septic pneumonia, gangrene of the lung, leptomeningitis, tonic and clonic contractions of the face, neck, and upper extremities, or paresis, strabismus, retraction of the head and neck, delirium, and coma.

I believe that much desirable information can be gained by making a bacteriological examination of the secretion from the external meatus in all cases of purulent otitis media. During the past winter such examinations have been undertaken by Dr. George Sloan Dixon, assistant pathologist of the New York Eye and Ear Infirmary, in many of my cases; and in one case in particular, of acute purulent otitis media, in which a few streptococci were found in the pus from the external auditory canal mixed with other micro-organisms, it was interesting to note that in the pus taken from the mastoid cells the streptococci were found in much greater number, while in the broken-down clot removed from the sigmoid sinus of the same patient the streptococci alone were found.

In a paper read before the American Otological Society in July, 1898, I made the following remarks, which

I desire at this time to emphasize: "Much can be learned from cultures made from the pus in cases similar to this one." (The case reported being one of double mastoid disease due to the presence of the pneumococcus.) "They are always serious ones when the pneumococcus and streptococcus are found, and if one can be sure of their presence early in the disease, it may be stated in general terms that the case is likely to cause considerable anxiety." I believe that in those cases of undoubted infection by the pneumococcus or streptococcus, the inflammation starts simultaneously in the middle ear and attic, because the patient frequently complains at a very early stage of pain when pressure is made over the mastoid process. Percussion of the bone is not sufficient to detect mastoid disease. One should make firm pressure over each mastoid and thus compare the two sides. It is most important on this account, if pneumococci or streptococci have been found in the discharge from the ear, to make a large incision in the drumhead, extending from below the stapes to the lowest portion of the membrana tympani, in order to secure the best possible drainage.

The application of the Leiter coil is of but little avail in severe cases of mastoid inflammation due to the presence of micro-organisms.

In Case II the infection was undoubtedly due to the presence of the pneumococcus, while in Case III the streptococcus was found. I regret to say that a bacteriological examination of the pus was not made in Case I.

Thickening of the external wall of the sinus, frequently observed when the inner bony wall of the mastoid cells has been removed, is certainly a clear indication of the usual route by which the micro-organisms travel. The sigmoid sinus, being in close relation to the mastoid cells, is affected by direct contact with the diseased bone. The micro-organisms may, however, travel through fissures in the tympanic roof or antrum, or they may be carried into the sinus by means of small veins in the bone. When the sinus is first involved, the epithelium is swollen and desquamates, and coagulation occurs, the deposit of fibrin being limited to one side of the wall (parietal clot); or the whole circumference of the vessel may be involved (obstructing thrombus). The sigmoid sinus, a continuation of the lateral sinus and lying in the sigmoid groove, is joined by the inferior petrosal sinus to form the internal jugular vein. The sigmoid sinus, resting as it does against the inner bony wall of the mastoid cells, is of especial interest to the aural surgeon, and is the sinus most frequently affected in mastoid disease. When disintegration of the thrombus takes place, the infective particles are carried first to the small vessels in the lungs and infarctions occur. In a similar manner the infection may involve the pleura, pericardium, brain, kidneys, or liver, or an abscess may form in the cerebrum or cerebellum. It will thus be seen that unless an operation for the removal of the thrombus is performed in the first stage, before the thrombus has begun to disintegrate, the result is almost certain to be fatal. The operation should be undertaken as soon as a diagnosis of thrombosis has been made. In Case I the operation was performed one week after the beginning of the earache. In Case II ten days elapsed between the first symptom of earache and the operation, while in Case III, eleven days after the beginning of the attack, a broken-down thrombus was removed. It is thus demonstrated that in eleven days' time after the first symptom of earache pus may be found in the sigmoid sinus.

The question of ligating the internal jugular vein is still one open to discussion, some otologists claiming that it is advisable in all cases to first ligate the vein. In Case III, although the thrombus removed from the sigmoid sinus had begun to disintegrate and contained a drop of pus at its lowest point, the internal jugular vein was not tied. Very little blood oozed from the direction of the bulb after the clot had been removed. It seemed to me advisable to wait for twenty-four hours before ligating the vein, with the hope that it would not be necessary to do this. Such proved to be the case. Unless we are quite confident that the thrombus has already extended to the internal jugular vein, it seems to me more prudent to give the patient the benefit of the doubt, for ligation of the internal jugular vein adds very much to the gravity of the operation.

On the other hand, if a thrombus has already formed in the internal jugular vein, or the sigmoid sinus contains putrid material, and especially if the patient shows symptoms of general infection, the internal jugular vein should be tied at once.

Although in many instances the sigmoid sinus has been incised accidentally or explored without apparent shock to the patient, still it must be remembered that the operation of removing an infective thrombus is a most serious one, and that the surgeon when operating should be prepared for all emergencies. After removing the thrombus, and especially if the internal jugular vein is tied, the patient frequently passes into a stage of collapse, and in addition to giving hypodermics of strychnine, whisky, etc., it is often imperative to inject into the median cephalic vein several ounces of the normal saline solution. The latter remedy is the most valuable means at one's command in such cases, and immediately after its use the pulse, which but a moment before could hardly be counted, becomes strong and much less rapid. When the patient is conscious and can retain the solution, it can be used per rectum.

It is not my purpose this evening, nor is there time, to discuss the various steps in the operation, the subject being an inexhaustible one. The points which I wish to draw your attention to are the following:

I. The impropriety of giving antipyretics in all cases of suppurative otitis media.

II. The value of a bacteriological examination of the secretion from the external auditory canal in all cases of suppurative otitis media.

III. The importance of operating at the earliest possible stage after a diagnosis of thrombosis has been made.

IV. The use of the normal saline solution during the operation for sinus thrombosis or immediately following it.

COMPARATIVE TEST OF MIXED-FAT EMULSION AND COD-LIVER OIL AT THE HOSPITAL FOR RUPTURED AND CRIPPLED, NEW YORK.

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In a special hospital as extensive as the one named above, there are always a large number of children who are anæmic and poorly nourished. The reason for this is clear when it is considered that in the majority of instances the inmates are strumous, their diseases very exhausting, and usually of long standing. In addition to operative measures and various apparatus employed for their relief, particular attention is given in all cases to means for raising the general nutrition. Food and tonics, therefore, are of great importance in the treatment of such patients, and everything is used which gives reasonable promise of aid in this direction.

Attracted by the favorable reports on the treatment of pulmonary tuberculosis by the Russell emulsion of mixed fats, Dr. Virgil P. Gibney determined to test its value in cases presenting other tuberculous lesions at the Hospital for Ruptured and Crippled. It is not alleged in previous publications on this subject that the emulsion has any specific action upon tuberculous diseases, except as it improves nutrition by supplying in a readily absorbable form an element of food commonly lacking in sufficient amount and difficult of digestion in those suffering from such lesions.

Cod-liver oil having been in use at the hospital, it was decided, for purposes of comparison, to select a certain number of children and divide them into two groups, an emulsion group and an oil group, the diseases and general conditions in each to correspond as nearly as possible. This latter is perplexing, because no two patients are exactly alike, and may differ either in age, extent of disease, length of time ill, etc., the influence of which should necessarily be considered in estimating results, though the importance of these differences is difficult and often impossible to convey to the reader. It seemed wiser to the writer not to attempt to compare these variations, because of the danger of either exaggerating or slighting their importance; so that, except to mention the fact, nothing will be made of this feature. That the emulsion list should include nearly all of the very serious cases was partly due to the fact that it was the first arranged, but largely to the intention of the observers, as the emulsion was on trial. It is worthy of remark that it has been found from experiment that cod-liver oil, if pure, has food value, but is inferior to some other oils. This experiment was undertaken, therefore, with the purpose of determining the comparative nutritional value of the mixed-fat emulsion and cod-liver oil. They are here considered solely as foods.

The observations covered a period of thirteen weeks, from November 1, 1898, to February 1, 1899, and the children were examined and changes noted weekly in regard to the following particulars: Weight; local condition or suppuration; activity about ward; color; general condition. The importance of frequent and careful examinations of the blood during the experiment was not overlooked, but was necessarily omitted on account of the lack of proper laboratory facilities, due to the unfinished condition of the new hospital buildings.

In selecting the cases only two conditions were insisted upon: first, that constitutional treatment was required in addition to the surgical measures already in progress; second, that the child should remain in the hospital until the completion of the experiment.

The following table shows the number and kind of cases in each group:

	Emulsion Group. Average age of children, nine years.				Cod-Liver-Oil Group. Average age of children, seven years and a half.			
	Pott's disease.	Hip disease.	Diseases of small joints.	Total.	Pott's disease.	Hip disease.	Diseases of small joints.	Total.
Number of cases......	8	19	5	32	10	15	4	29

Duration of disease for both groups, from three months to five years.

It was early learned that the emulsion was much more palatable when given in very hot water, and when so prepared there was no objection.

It was also found that, as many of the children were small and were wearing plaster jackets, it was important to keep the volume of the dose as low as possible, because of distention. With this in view, the first dose of two drachms was given in three ounces of water and increased to six drachms in the same amount. Later, in a number of the cases, the amount of water was reduced to two ounces and so taken perfectly well—in fact, more comfortably.

The cod-liver oil was given directly from a spoon or medicine glass in the pure state. The first dose was two drachms, increased to three drachms. Not a few of the usual complaints were heard from those taking it.

Weight.—All of the children were weighed regularly on the same day of the week at about the same hour, unless some operative procedure prevented. As nearly all wore some sort of apparatus, or "plaster," subject to frequent change, the deductions, with the exception of those given below, are of comparatively little value. No attempt was made to weigh them stripped, as few could have been handled without their braces, and the plaster, for obvious reasons, could not be removed weekly. The only reliable figures are those obtained from the first five weeks, very slight, if any, changes having been made in braces or plaster up to that time. From these we find that seventy-five per cent. of the emulsion group and fifty-nine per cent. of the oil group gained in weight. The aggregate gain of the emulsion cases was thirty pounds and a half; of the oil cases, fifteen pounds and a half. The losses amounted to six pounds and a half under the emulsion treatment and nine pounds and a half under the oil treatment.

Local Condition or Suppuration.—The number and condition of the sinuses, and the amount and character of the discharge from the same, were considered under this heading. Of the thirty-two children in the emulsion group, twenty were in a suppurating condition—that is, each had one or more pus-producing foci, discharging freely through sinuses. These all required dressing at least every third day, and some of them daily. Two have ceased discharging and the sinuses have either closed or are tending to do so.

Of the twenty-nine taking cod-liver oil, only six were suppurating, and one of these has ceased discharging, though the sinus has not yet closed. Six of the emulsion cases and one of the oil cases present a marked improvement, in that the discharge has decreased in amount, some sinuses have closed, and there is much less local pain and tenderness about the diseased joint. Toward the end of the last month there began to be a certain though not marked improvement in quite a number of children, not before noted. Seven of these belong to the emulsion group and one to the oil group.

Two in each group appear to have remained stationary throughout the period.

That in some of the serious cases the disease should progress, with an attending increase of the discharge and severity of the local symptoms, is not surprising to those familiar with tuberculous affections. This was the course which three of the emulsion group and one of the oil group followed. It should be added that in three of these four cases the patients had had a severe albuminuria from the beginning, probably indicating an amyloid or tuberculous kidney. Two had enlarged livers.

The history and course of two rather striking cases from the emulsion group may be briefly related here:

Case I.—A girl, five years of age; high dorsal Pott's disease; wearing the Knight spinal brace; had one discharging sinus over boss, which, in spite of careful dressings and a number of curettings, has continued to discharge for about two years. At the sixth week the discharge began to decrease and became seropurulent in character. At present there is no discharge and the sinus is closing rapidly.

Case II.—A boy, ten years of age; right hip disease; very large abscess on outer thigh, opened and irrigated, followed by profuse discharge up to the eighth week, when it began to subside. By the tenth week the sinus was entirely closed. Since that time his hip has become somewhat more tender, but no abscess can be made out. He gained in weight, and at present has a fine color.

Activity.—Considerable difficulty was experienced in judging of their condition in this respect, due to the fact that about three fourths of the whole number were walking about. However, disregarding these, and simply considering those in bed, on carts, or in rolling chairs at the beginning of the experiment, we find that six cases from the emulsion list and one from the oil list show greater activity—that is, they are at present walking about. Two from each group remained stationary and four from each are less active than at the outset.

Color.—All the children, with the exception of six or eight, were pale, and many of them distinctly anæmic in appearance. Several presented that peculiar "waxy" complexion seen with prolonged suppuration. No appreciable change in color was noted until about the seventh or eighth week, when a little color, more or less fugitive, began to appear in some of the faces. Soon, however, a more marked change was noticeable in the non-suppurative ones, and one or two who had had some color to begin with now really had red cheeks, and a few of the anæmic ones some color in the lips. By the tenth week improvement was apparent in most of the emulsion cases. Those in the oil cases showed improvement also, but it was less general and distinct.

Referring to notes, we find that seven from the emulsion group and two from the oil group showed a marked improvement. They could be said to have a "good color." Thirteen from the first and seven from the second certainly show a bit of color in place of their former sallow complexions. Twelve from the emulsion group and twenty from the oil group show no change whatever. Among the last-mentioned are the "waxy" ones spoken of above, one at least of which has cleared up favorably under the emulsion treatment.

General Condition.—At the outset only a very few of the patients could be said to be in good condition. Improvement in this respect followed closely after those noted above. This was seen in nearly all of the emulsion cases, manifested by greater activity, improved appetites, lessening of the discharge in suppurating cases, with consequent diminished local discomfort, gain in weight, a fullness of the face, and better color. The same occurred, to a certain extent, in the oil cases, but was later in making its appearance and was much less striking and general.

Referring to the notes again, we find that ten from the emulsion list and one from the oil list show a marked improvement. The cases which showed less, but at the same time a degree of improvement, stand twelve to eleven in favor of the emulsion. Only three of the cases in the emulsion group show "no improvement" against seventeen in the oil list.

There were three cases from the first list in which the patients declined steadily during the whole time. They were desperate from the beginning, and among these and the following were all the cases in which the patients had albumin in the urine. Three deaths occurred from the same list: one from lobar pneumonia, one from septic meningitis, and one from tuberculous meningitis.

It may not be amiss to cite two cases at this point. In the first one the patient was thoroughly septic and in very bad condition:

Case I.—A girl, seven years of age, was "excised" for very extensive disease of the right hip. About twenty ounces of pus were evacuated at the time. Her condition was desperate indeed: emaciated; no color; no appetite; pulse rapid and feeble, temperature high. Was put on the emulsion treatment two weeks after the operation in about the above condition, with little hope that she would be able to continue it. However, the temperature dropped under frequent dressings, and soon the discharge lessened in amount. General improvement was apparent, which continued, and she is now walking about, wearing a brace, with almost no discharge from the operation wound. She is active, full in the face, and has a good color. Gain in weight, five pounds. As she wore the same apparatus, this record is reliable.

The following case was in the oil group up to the sixth week, when, for special reasons, the patient was transferred to the emulsion group. No apparent improvement had taken place up to that time:

Case II.—A girl, fourteen years of age, had long-standing left hip disease, with five sinuses in the thigh and groin, which had discharged for more than a year. General condition fair; in rolling chair most of the time; face a waxy white. She has gained in weight, is more active, and walks some of the time. Her face is clear white, with color in the lips. All but one of the sinuses have ceased discharging, and that one is improving steadily.

The results are tabulated in the following:

	Emulsion Group.					Cod-Liver-Oil Group.				
	Improved.	Stationary or unimproved.	Worse.	Total pounds. Gain.	Total pounds. Loss.	Improved.	Stationary or unimproved.	Worse.	Total pounds. Gain.	Total pounds. Loss.
Weight (first five weeks) ..	....	....	....	30½	6½	....	....	....	15½	9½
Suppuration	15	2	3	....	....	3	2	1		
Activity ...	6	2	4	....	....	1	2	4		
Color	20	12	....	....	....	9	20			
General condition	22	3	...	....	....	12	17			

To summarize briefly, we see that sixty-four per cent. of the patients in the emulsion cases were suppurating and several were in a desperate condition. Of these, seventy-five per cent. improved.

Of the oil cases, in which twenty per cent. of the patients only were suppurating and none were in a serious condition, fifty per cent. improved.

The weights, though continued through the whole experiment, were neither satisfactory nor conclusive, for reasons mentioned, with the exception of those for the first five weeks. These show the gains on the emulsion side to be nearly double and the losses about two thirds those on the side of the oil.

In color, sixty-five per cent. of the patients in the emulsion cases were improved, to be compared with thirty-one per cent. of those in the oil cases.

Under general improvement sixty-eight per cent. of those in the emulsion group, against forty-eight per cent. of those in the oil group, showed a gain, in spite of the much more serious condition of the former.

In conclusion, it may be said that there seems to be a certain better appearance, impossible to classify, about the patients in the emulsion group, which is in advance of that which may be deduced from the notes, though they show a striking gain over those in the oil group.

Note.—The hospital is indebted to Dr. John F. Russell for his kindness in seeing that emulsion was supplied for these experiments.

THE CHRISTIAN SCIENTISTS: WHAT SHALL WE DO WITH THEM?*

By F. JULIAN CARROLL, M. D.,
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Mr. President and Fellow Members of the South Carolina Medical Association. Gentlemen: The general practitioner of this, the ending of the nineteenth century—and I believe the large majority of my audience is correctly classed as such—to be successful, must needs be a storehouse of much and diverse medical lore. This is an age preeminent of specialism. Indeed, if the specialists demand much more, the general practitioner will be of use only to direct the patient to the proper specialist. On the other hand, if we strive to keep up our prerogatives as general practitioners, we have to be more or less like the doctor who advertised himself as a "specialist on all the diseases of men, women, and children." To embrace such a comprehensive scope of knowledge takes more time than most of us have at our disposal. Thus it is that in our strivings to keep up with medical progress we frequently allow to go unnoticed matters which, while they are, perhaps, strictly speaking, extraneous to medicine proper, are of vital interest to us as practitioners. Of these I should mention "Christian Science" as the most powerful and the most potent for evil. Possibly you think that this is stating the case rather strongly, but when I tell you that the barefaced assertions of this money-seeking cult constitute the religion of over two hundred thousand souls; that this society is daily filling the country with its tracts written by men and women of more or less ability; that they publish a regular monthly journal, and that they have their churches and meeting houses in almost every city of any size in the United States; that their baneful influence has permeated all walks of life, Harold Frederic, a very prominent literary man, having died a victim of this faith; when I tell you all this, perhaps you may give the matter a little more thought.

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* Read before the South Carolina Medical Association at Harris Lithia Springs.

That the medical profession, as a whole, is "slow to anger and plenteous in mercy" is well known, and that we are often negligent of our responsibilities and interests, owing to our disinclination to appear in the rôle of public accusers of charlatanism and professional irregularities, is also a matter of common knowledge. There is a limit, however, when patience ceases to be a virtue, and in my opinion that limit has been reached, so far as Christian Science goes. However, let us see first what this Christian Science is.

We find that Mrs. Eddy has summed up the Christian Science religion in four remarkably misty propositions, as follows:

1. God is all.
2. God is good. God is mind.
3. God, spirit, being all, nothing is matter.
4. Life, good, God omnipotent deny death, evil, sin, disease—disease, sin, evil, death deny, God omnipotent, good Life.

Candor compels me to admit that this fourth proposition looks suspiciously like a word puzzle from the supplement of a Sunday newspaper; however, on closer inspection, we find this lack of perspicuity is due in the main part to a transposition of words from the middle of the sentence—thus, deny death, evil, sin, disease—disease, sin, evil, death deny, etc.

In her third proposition Mrs. Eddy states, "God, spirit, being all, nothing is matter." Now, it logically follows, of course, that as "nothing is matter," matter is nothing. Really, one is inclined to think that the whole Christian Science edifice is builded on—nothing! In other words, according to Mrs. Eddy, the *Bible* was in error when it said, "And the Lord made heaven and earth, the sea, and all that in them is." There is no earth nor is there a sea, and, as something can not possibly exist in nothing, "all that in them is" is nothing.

In view of our preconceived ideas of the reality and indestructibility of matter, to be rudely informed that "matter is nothing" rather knocks the props from under us. "Of course," says Dr. Charles A. L. Reed, of Cincinnati, "when one is confronted with the proposition that 'matter is non-existent,' 'matter is nothing,' one is very inclined to protest that one can see and feel and taste matter; but our wily synthetic metaphysician anticipates the criticism. We are told that the testimony of our senses is always false; in other words, one knows nothing of things by hearing, seeing, tasting, or smelling them. . . . We are reminded of the primitive impression that the sun seems moving from east to west instead of the earth turning from west to east. An expression arising from the false testimony of the eyes, but corrected by 'clearer views' of everlasting facts." Dr. Reed continues pertinently and wittily: "Of course, the observation is very conclusive, yet we might have been a little more content in the conviction forced upon us if we had been informed how these 'clearer views' could have become possible had it not been for 'eyes,' or how the science of astronomy could have become developed by an eyeless humanity."

Now, where does all this "nothingness" lead us to? What is the object of Christian Science, and how are these propositions put to practical uses? The special application of Christian Science which concerns us as physicians is that division of the "science" which relates to the cure of disease, remembering, of course, all the time that inasmuch as "sin, evil, death, disease" do not exist, the "cure of disease" is simply a figure of speech. Still, as the Scientists themselves have not invented any words to supply the place of these obsolete terms, we must use them to make ourselves understood. How these "healers" accomplish their cures, and why they do it, is illustrated by the following ingenious narrative from the pen of the Rev. Jesse L. Fonda.* Under the caption of Unconscious Healing he relates the following among his other cures:

"The next case is in the same line, but not so pronounced. It is of a man, a former parishioner, who had poor health with financial troubles, and it was thought that he was fast passing into softening of the brain. It showed itself in violent paroxysms of temper and anger." (At this point, were one inclined to criticise, one might ask the Rev. Mr. Fonda exactly what distinction there was between "temper" and "anger," and some of the more exact of us might be tempted to intimate to the reverend gentleman that his history of cerebral softening might be a trifle more full without any injury to its clearness. But let us hear him out.) "He would fly into a passion on the slightest provocation and had often threatened the life of his wife, and was a terror to his children. A friend had told his wife what Science did for such cases" (parenthetically one might remark the connection between the wife's knowledge of "Science" and the husband's threat on her life; truly, the provocation was great), "urged them to try treatment, and wrote to us about them. Money matters prevented." (I beg you will give Mr. Fonda due credit for this frank statement: "Money matters prevented.") "But the last letter that the friend received from them contained the news that the husband had entirely changed in his actions toward his wife"

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* *Christian Science Journal*, October, 1898.

—possibly because she had given up Christian Science—"and family, and was just as kind and tender as one could be."

This case is quite a striking example both of the miraculous curative powers of "Christian Science" and of the willingness of this cult to work "for a consideration," and their corresponding unwillingness to work without that "consideration"—in short, of their commercialism.

As regards the cure, one need not necessarily be endowed with an overwhelming degree of skepticism to arrive at the conclusion that the Rev. Mr. Fonda had nothing in the world to do with this cure.

One of the first principles of this religion is that if one wants to be cured he must have faith in the healer, and, so far as I can see, this man, who was so miraculously cured, did not demonstrate the faith of a "grain of mustard seed." Indeed, he seemed to take no stock in the business, and probably like a sensible man put himself under the care of a good physician.

If Mr. Fonda really believed that by his prayers and incantations he could have cured this patient, his barefaced assertion that "money matters prevented" is especially astounding, and should fill all honest people with disgust.

Here are a band of people collected together in the name of Christ, and this man, the Rev. Jesse L. Fonda, one of their chosen leaders, one who, I should judge, occupied a "high seat in the synagogue." On the other hand, we have a poor stricken creature, according to Mr. Fonda, "threatened with softening of the brain." What happens? What would we naturally expect to happen under such circumstances? Does this leader extend the helping hand of the "Good Samaritan," as any Christian should and any physician would? No. He passed by on the other side! And why? Simply and solely because "money matters prevented." There is no excuse, no evasion. It seems to be a clear business proposition. "You pay your money and get your Divine healing"—in short, "money up or shut up." Is he ashamed of himself? Well, hardly! Oh, no, he simply claims "another cure," folds his hands in meek contentment, and lays for a man with a fat purse and a bilious complexion. Meanwhile the Scientists applaud this righteous man!

These people base their powers of healing on the miracles performed by Jesus Christ. In one of their tracts they quote the miracle of the clay and the spittle: "And when He had thus spoken He spat on the ground and made clay of the spittle, and He anointed the eyes of the blind man with the clay." The tract then goes on to say that the man was directed to go to the pool of Siloam and wash this material remedy from his eyes; which to this astute writer of the tract was an indication of our Lord's contempt for material remedies. Now Christ never did anything without a reason, and if using material remedies signifies contempt for material remedies, then dying in battle for the United States shows undying admiration for Spain. In short, to my mind the lesson is clear that while our Lord did not himself have need of any material remedies, He did not want to cast them into disrepute, and simply used this one to demonstrate that fact. However, as clay does not exist, and as spittle is nothing, it is begging an issue for the Christian Scientists to argue about such material things. In fact, in view of the non-existence of material in general, medicines are imaginary and should do no harm if they do no good; so our Christian Science brothers are giving themselves needless trouble in disparaging the use of drugs.

But let us go further, and read of more cures. On page 508, *Christian Science Journal*, we find a narrative of thrilling interest from Mrs. Corrine Bishop, of Walla Walla, Washington. Right here, while disclaiming any intention to pun, I am going to christen Mrs. Bishop's tale "Walla Walla Wash." After hearing her story I think you will agree that it is an appropriate title. It is as follows: "I was preparing to scrub my kitchen floor, and had a large tub half full of boiling water. My little boy, three years old, had a spool of thread and began to unwind it, walking backward and pulling the end of the thread. Over he went into the tub, with his body under water except his face and the forearms, with which he was holding on to the tub. The other children began to cry and say, O, mamma, Earl will be burned! I said, No, Earl is God's child and can not be burned! They stopped crying immediately and I began to quiet their own fears.

"I took him out of the water as soon as possible, removed his clothes, and put on his nightgown, without examining to see if there were any effects from the burns. He asked me to sing 'Shepherd, show me how to go,' of which he is very fond. When I had finished singing the hymn he looked up, smiled, and then fell quietly asleep. When he awoke the next morning he was free from pain! . . ."

The foregoing recital is certainly very interesting, nay, even extremely valuable. Think of the inestimable boon this knowledge conveys to the poor hard-worked mothers of the large family of the unwashed! In future all they will need is a tub of boiling water, a spool of thread, and the inevitable dirty urchin. The child walks backward, unwinds the thread, and the tub and boiling water do the rest! When we conceive that the young one has boiled long enough to be clean—yea, even surgically clean!—we take him, or her, out, repeat the formula prescribed by the "Christian Scientist" sister of Walla Walla, and put him or her to bed and to sleep. One can not help confessing, however, a feeling of intense regret that the angelic "Earl," who admired "Shepherd, show me how to go" with such intense and pathetic love, when he took his hot-water bath, should have neglected to include his face and forearms in the boiling process, as some timid mothers may entertain a doubt as to the perfect safety of completely submerging the dirty urchins in need of a bath. Such uncalled-for timidity will, of course, necessitate some additional labor in cleansing the members not included in the plunge, which is, to say the least, greatly to be deplored.

To us as surgeons this thrilling narrative can not fail to appeal. It has long been a question of much import as to the best method of rendering the hands perfectly sterile—in fact, there have been grave doubts expressed as to the possibility of such sterilization. Now, however, everything is simple, premising, of course, the impossibility of our microbic enemies adopting the Christian-Science religion themselves, and thus becoming unboilable. The "boiled hand" in surgery, so often spoken of in derision, will soon be an accomplished fact. But let us not grow too sanguine, for, as the following somewhat disappointing history shows, the best of plans sometimes go awry.

It really does seem a pity, though, after thinking of the glorious possibilities which Mrs. Bishop's novel experience unfolds to our imaginations, to have our growing and glowing enthusiasm roughly dispelled by being brought face to face with an apparently authentic case of failure in our methods (presuming, of course, we have adopted the boiling process as our own). The *New York Medical Journal* for January 7, 1899, editorially remarks: "According to the *New York Times* for December 28th, a woman was so badly burned at Omaha on December 24th, by an explosion of boiling turpentine, that she died on the 27th from the effects of her injuries. The family, being 'Christian Scientists,' refused all medical assistance." Now, we are not told that the woman suffered at all, and in the absence of any positive proof we must assume that she did not. However, she certainly did make a most unfortunate mistake in dying. Doubtless the operation was a perfect success and all that, but the patient didn't live long enough to appreciate the benefits of it.

Now, whether boiling turpentine is less compatible with the integrity of the human epidermis and soft parts than boiling water, or the Omaha band of Christian Scientists did not possess the same fireproof coverings as the Walla Walla assortment, we are, of course, unprepared to say, but the fact remains that we would have been very much better satisfied had the Omaha lady shown the necessary resistance to heat. In passing, I should incidentally remark that in my humble opinion an extraordinary capacity for withstanding the effects of intense heat would seem to be quite a valuable addition to the Christian Science armamentarium, as they will in all probability need it—and need it like the Texan sometimes needs his pistol: mighty bad!—sooner or later, here or hereafter, most likely the latter.

To imagine, however, that the "Christian Scientists" confine their attention to boiling children is to do them an injustice, for, though they are continually getting themselves and others "into hot water," they are doing other things, as the following goes to prove: "A gentleman met with an accident which resulted in his being left with one leg shorter than the other. Medical science failed to put him to rights, and in despair he determined to try Christian Science. He was introduced to a healer who was said to have had miraculous success with similar cases. Unfortunately, the lady . . . was only able to see him once. She, however, commenced the treatment and departed . . . promising to continue the course *in absentia*. . . . The leg began to grow. It continued to grow. It got as long as the other, but showed no disposition to stop growing at that point. The owner became alarmed. He made inquiries after the absent 'healer,' but failed to find her. His leg kept on growing, and in despair he advertised in the newspapers in the hope of stopping the absent treatment, but without success. His leg is now three inches longer than the other, and is still growing."

The reflection which naturally occurs to one after a perusal of the foregoing is what a remarkable success this woman was at "pulling a fellow's leg." In fact, I believe the whole sect make a specialty of pulling the public's leg!

Now, to continue in a vein more serious, let us hear what Mrs. Eddy can do. She says: "I healed consumption in its last stages, the lungs being mostly consumed." "I healed carious bones that could be dented with the finger." "I have healed at one visit a cancer that had so eaten the flesh of the neck as to expose the jugular vein, so that it stood out like a cord." In reply to these Munchausen-like assertions Dr. Reed challenges all her statements and offers to place at her disposal cases of all the diseases mentioned, these cases to be under her absolute management. As yet we have heard nothing of her accepting Dr. Reed's challenge, and are forced to assume that Mrs. Eddy is an unscrupulous and willful liar.

That such assertions as Mrs. Eddy's should be taken seriously by over two hundred thousand persons is rather astounding. Still, they will give you dead loads of Biblical authority for their religion, and, as one of their writers, Eugene Hatch, says, in the *Arena* for May, 1896: "There are scores of passages which support gospel healing, but not one against it." This may be so. I am not prepared to say it is not so. Still, if we are going to regulate our everyday life by the miracles which the Bible speaks of, we've a job ahead of us. By that token Christian Scientists should never take ship to go anywhere. They should reasonably be expected to walk on the water. "Five loaves and a few small fishes" should feed their multitudes. They should never need for wine—they could always turn water into that! But why multiply the possibilities of this glorious religion? Two hundred thousand souls believe in it, and still, Mrs. Eddy to the contrary notwithstanding, people are dying, sin is being committed, many are falling sick, and matter still seems matter to most of us. "Dust to dust, ashes to ashes," still comes to us with appalling vividness, and the world still seems to turn in the old-time way.

Do the Scientists ever accomplish a cure? I should answer decidedly in the affirmative. To one who has seen the almost miraculous improvement in a patient on seeing his family physician, even before medicine is given, or experienced good results from bread pills or hypodermics of plain warm water—and most of us have seen all these—the value and potency of "suggestion" can not but appeal in certain cases. Few, if any, doubt the influence of hypnotic suggestion in nervous diseases and in dealing with hypochondriacs.

I remember vividly a case of mine which simulated paralysis. The patient, a young girl, had been unable to move from her chair for months, and the case puzzled me considerably. I finally suspected hysteria and invited Dr. W. H. Prioleau, then of Summerville, to see the case with me. After giving the girl a very careful examination, we determined on a diagnosis of hysteria, and commenced a treatment of rather vigorous "suggestion." She soon got well, and has ever since been working out as a servant girl. This case would have been a fruitful one for a Christian-Science "healer" to work upon. Now, all of us could multiply similar cases where the successful treatment was mental rather than physical.

Unfortunately, however, the Scientists do not confine their pretensions to the treatment of fancied ailments: they claim to cure, and do attempt the cure of, such cases as diphtheria, phthisis, cancer, fractures, necrosed bones, etc., thus proving a serious menace to the safety of our commonwealth. And here it is that we as physicians should act, and act vigorously.

What shall we do with them? We are told that one of these "healers," Harriet O. Evans by name, treated Thomas McDowell for typhoid fever by the usual Christian-Science method, with the result that McDowell now imagines he is dead. This seemed also to be the idea of Dr. Charles A. L. Reed, of the State board, for he succeeded in having the Evans woman convicted of practising without a license. Of course she appealed, but Dr. Reed's commendable zeal answers to a certain extent our question. Personally, however, I believe that all such persons should be criminally prosecuted for every case that dies under their treatment. I think if it were possible to pass a law to the effect that whenever a "Scientist" lost a patient we should hang the "Scientist," they would begin to think a little more seriously of the reality of "disease and death." The imagination would grow into conviction that a rope around one's neck was a very material and an intense reality.

In concluding, gentlemen, let me beg of you severally and individually to think of this matter seriously, remembering all the while that in matters medical the general public is not a discriminating public; that the masses as well as the classes are apt to be carried away by fads, and that it is our duty as family physicians to point out the absurdity of this unscientific and un-Christian craze. Remember, also, that we are contending against a class of people who have gone over their grounds thoroughly, and, though their premises are false, their deductions are in the main logical; therefore we must use our wits in defeating them. Though assured that truth, reason, and honesty will finally prevail, let us hasten this culmination and the downfall of this iniquitous sect by something more than a passive disapproval.

EXCISION OF THE RIGHT SUPERIOR CERVICAL GANGLION OF THE SYMPATHETIC FOR GLAUCOMA,

WITH REPORT OF CASE AND REVIEW OF LITERATURE OF THE SURGERY OF THE CERVICAL GANGLIA.*

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We desire to make this preliminary report of what we believe to be the first operation done in America for excision of the superior cervical sympathetic ganglion in glaucoma. For the sake of priority this report is submitted a few weeks after the operation:

Mrs. B. S., aged fifty-six years, was brought to our clinic May 10, 1899. Patient is deaf and dumb. Has had pain in and around right eye for two months. Vision in this eye is reduced to light perception; tension is +3. Pupil is widely dilated. Anterior chamber is shallow; cornea cloudy and slightly anæsthetic. Media slightly cloudy, still allowing fundus to be seen. Episcleral vessels enlarged. Circumcorneal injection present. Optic nerve cupped. Diagnosis of chronic irritative glaucoma was made. Left eye presents immature cataract. Vision in left eye is $\frac{20}{70}$.

Knowing the flattering results obtained by Jonnesco and others, by excision of the superior cervical ganglion in absolute glaucoma, we explained the operation to our patient through an interpreter, and obtained permission to operate. On May 15, 1899, the patient was anæsthetized, chloroform being employed. An incision four inches in length was made on the right side downward from the mastoid process, extending along the posterior border of the sterno-cleido-mastoid muscle. The external jugular vein was cut and tied. The sterno-cleido-mastoid was then separated from the trapezius muscle and the spinal accessory nerve was cut. A deep dissection was then made, exposing the carotid sheath. This was opened to enable us to locate the pneumogastric nerve beyond question. The carotid, internal jugular, and pneumogastric nerve were then pulled forward, enabling us to see the rectus capitis anticus major muscle, on which the superior cervical ganglion rests. Tearing through the fascia, the ganglion was found and stripped. The ganglion was then cut high up with curved scissors and all its branches severed. About one inch of the trunk of the sympathetic below the ganglion was removed. There was no change in the pulse or respiration. The wound was closed with interrupted sutures and the neck placed in a plaster cast. Time required for operation was fifteen minutes. Immediately after the operation it was noticed that the right eye was suffused with tears, the right conjunctiva much injected, and the right nostril was moist. The intraocular tension was +2. Patient slept well all night, being free from pain for the first time in over two months. Temperature at 7.30 P. M. was 99.2°; pulse, 80. The patient's temperature has not at any time exceeded 99.8°, nor has her pulse exceeded 90. Tension has steadily decreased to +1.

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* Read before the St. Louis Academy of Medical and Surgical Sciences, May 23, 1899.

On May 16th slight ptosis was noticed on the right side. This symptom is yet present.

On May 19th the circumcorneal injection was much less; the conjunctival hyperæmia and lacrymation were still present, while the ptosis was slightly increased, and tension was +1.

The immediate relief of pain in this case following the operation leads us to conclude that in absolute glaucoma excision of the superior cervical ganglion is justifiable, even though no other beneficent result is obtained. This operation is much preferable to enucleation.

The flattering reports which have been published in foreign medical literature by Jonnesco and others regarding the value of excision of the superior and middle cervical ganglia in exophthalmic goître would lead us to operate on such cases at the earliest opportunity, provided ordinary medicinal treatment has failed.

In regard to glaucoma without complete loss of vision, we shall certainly employ this operation at the earliest possible date.

In conclusion, we desire to thank Dr. H. L. Nietert, superintendent of the St. Louis City Hospital, for privileges in the deadhouse. The operation was witnessed by Dr. J. C. Murphy, Dr. Fisher, Dr. Emory Lanphear, Dr. C. Heidemann, and Dr. O. F. Ball, of St. Louis, and Dr. Davis, of Independence, Kansas.

Literature.

The surgery of the cervical sympathetic system may be said to have had its initiative with Alexander, of Edinburgh, who resected the superior ganglion on both sides and described the operation in 1889.

Jacksh made it known in 1892 that he had resected the vertebral plexus and cut the cord connecting the middle and inferior cervical ganglia.

The third man to enter this field was Kümmel, who excised the superior ganglion on one side only.

In 1893 Bojdanik reported a bilateral resection of the middle ganglion.

Chipault, in his *Chirurgie opératoire du système nerveux*, of 1895, writes of the cervical sympathetic system as having been operated upon twenty-eight times.

Bilateral section of the sympathetic cord above and below the middle ganglion was made by Jaboulay in 1896.

All the above-cited operations were undertaken for the relief of epilepsy.

With one exception, the first surgical procedure of this kind in a case of exophthalmic goître was that of Jonnesco, who resected the superior and middle ganglia on both sides in August, 1896, simple section of the sympathetic having been performed by Jaboulay earlier in 1896.

Jonnesco was the first, in 1896, to do a bilateral resection of all three cervical ganglia, though it is claimed by the Polish surgeon, v. Baracz, that he proposed the same in 1893.

To Professor Jonnesco, furthermore, belongs the credit of having first excised the superior ganglion for glaucoma in September, 1897.

Terrier, Guillemain, and Malherbe, in their *Chirurgie du cou*, of 1898, were among the first to give surgery of the sympathetic a place in a text-book.

As to the extent of the operation in the three diseases—epilepsy, exophthalmic goître, and glaucoma: In epilepsy all three ganglia must be excised, because the carotid plexus is formed by branches which leave the superior ganglion and the vertebral plexus by branches which have their origin in the inferior one. It is clear that the entire intracranial vasomotor arrangement must be changed if we agree with Professor Jonnesco that the operation achieves its result in the following way: By transforming a permanent cerebral anæmia into a permanent hyperæmia, thus improving the nutrition of the cortical cells and flushing out toxic material contained therein. If the case is one of reflex epilepsy, the idea is to completely destroy all means of communication between the thoracic or abdominal viscera and the brain.

The similar procedure—namely, the removal of all three ganglia—is necessary in exophthalmic goître. In proof of this, one has but to consider the anatomical relations. From the superior ganglion come the sympathetic nerves for the eye; from the inferior, the vasodilator, and in all probability the secretory nerves of the thyreoid gland. The same ganglion furnishes the cardiac accelerator branches. It is then clear why the whole sympathetic chain in the neck must be removed if one expects to remedy eye, thyreoid, or heart manifestations.

In glaucoma it is sufficient to remove the superior ganglion, as it supplies all the sympathetic nerves to the eye and intraorbital structures with the exception of those which are branches of the trigeminus. The operation here accomplishes its beneficent result in the following four ways:

In the first place, it inhibits vaso-constriction; hence the dilatation of the arteries, the lessened blood pressure, and the decrease of extravasation. Secondly, it inhibits secretion; hence the decrease of aqueous humor. Thirdly, it inhibits iris irritation; hence the contraction of the pupil, with opening of the canals in the iris angle and consequent easy outflow of the aqueous humor from the eyeball. In the fourth place, the circumbulbar unstriped muscles, which have been in a state of tonic contraction, are allowed to relax, and the normal venous circulation in the tunics of the eye is restored.

Glaucoma is not the result of a disease in the superior ganglion. Its removal, therefore, simply interrupts the transmission of pernicious impulses from the point of disease in the cerebrum or medulla where the sympathetic strands for the eye have their origin.

As to the results obtained in the surgery of the sympathetic for the three conditions—epilepsy, exophthalmic goître, and glaucoma—we will state in full only those of Jonnesco, published in the *Centralblatt für Chirurgie* of February 11, 1899. Among those whose extensive experience has led to like results are Jaboulay, Abadie, Gerard-Marchant, Quenu, Chauffard, Reclus and Faure, Soulié, Cerkez and Juvara, Gauthier and Combemale, Thiviar and Boisson, Tuffier, Chipault, Nicard, Ottero, Donnath, and Beyer.

Jonnesco operated upon forty-five epileptics, with complete cure in fifty-five per cent. of cases, with an improvement in twenty-eight per cent., and no effect in fifteen per cent. The period of observation in these cases varied from two years to four months.

His experience with exophthalmic goître was limited to ten cases. Six of these were absolutely cured and four greatly improved. He operated for glaucoma eight times, one case being of the acute variety, four of the chronic irritative form, and three of the simple chronic. His results with glaucoma were as follows:

1. Lessening of ocular tension, especially in four cases. 2. Vigorous contraction of the pupil. 3. Disappearance of periorbital pain and headache. 4. Disappearance of the attacks in irritative glaucoma. 5. Improvement of sight and increase in size of the field of vision in those cases where visual sharpness was still present and the atrophy of the papilla not complete.

All authorities who have had experience in the surgery of the cervical sympathetic system agree that it is one of the greatest advancements in the surgery of modern times.

NOTE.—Since the foregoing was written Dr. Ball, assisted by Dr. Renaud, has excised the left superior cervical ganglion in the case of Miss M. E., aged forty-three years, for chronic simple glaucoma. Vision in R.E. = 0; L.E. = light perception. Three days after operation vision in L.E. = ability to count fingers at three feet and a half. This patient sees with the nasal side of the retina (temporal field). Date of operation, June 15, 1899. This case will be reported in the near future. —J. M. B.

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Therapeutical Notes.

The Treatment of Cardiac Collapse.—The *Indépendance médicale* for June 7th attributes the following to Schilling:

℞	Camphor	150	grains;
	Olive oil	1,500	"

M.

From thirty-two to a hundred and sixty minims to be injected hypodermically.

For Facial Neuralgia.—The *Progrès médical* for June 3d attributes the following to Bocquillon-Limousin:

℞	Butylchloral hydrate	150	grains;
	Alcohol	150	"
	Glycerin	300	"
	Distilled water	1,800	"

M.

One or two teaspoonfuls daily.

The Treatment of Neuralgia.—The *Riforma medica* for May 30th ascribes to Eulenberg the following prescription:

℞	Ichthyol, Mercurial ointment,	of each	52½	grains;
	Chloroform, Spirits of camphor,	of each	300	"

M.

For local application.

An Anæsthetic Arsenical Caustic.—The *Journal des praticiens* for May 13th gives Pouchet's formula as follows:

℞	Arsenious acid, Orthoform,	each	1 part;
	Alcohol, Distilled water,	each	40 to 75 parts.

M.

A Mixture for Pelvic Congestion in Women.—The *Riforma medica* for April 1st ascribes this formula to Roussel:

℞	Magnesium sulphate		30	parts;
	Iron sulphate, Manganese sulphate, Dilute sulphuric acid,	each	8	"
	Distilled water		120	"

M. S.: A tablespoonful in a glass of water before breakfast.

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THE NEW GRADATION OF THE HARVARD CURRICULUM.

We learn from our highly esteemed contemporary the *Boston Medical and Surgical Journal* that with the coming academic year the Harvard Medical School is to enter upon an experiment in the line of an extension of a plan that has already been in operation to a certain extent in the Johns Hopkins University, "and, so far, with success," says our contemporary. It consists in a more thoroughgoing specialization, or "concentration," of the work to be done by the first-year and second-year students.

It seems that hitherto, since the adoption of the four years' course, the first half of the first year has been devoted to anatomy, physiology, physiological chemistry, and histology. On the new plan, the mornings in October, November, and December and the entire days in January will be given up to anatomy, and the allied branches of histology and embryology will occupy the afternoons of the first three months. During the second semester, which has heretofore been filled with anatomy, physiology, physiological chemistry, bacteriology, and embryology, physiology will be pursued in the mornings in February, March, and April and the entire days in May, with physiological chemistry in the afternoons of all but the last-mentioned month. "Full courses in pathology, clinical chemistry, second-year anatomy, and therapeutics, together with half-courses (without examinations) in auscultation and percussion, theory and practice, clinical medicine, bandaging, and surgical pathology, have heretofore comprised the second year's course." Hereafter the work of the first half of the second year will be in pathology during the mornings in October and November and the entire days in December. For the afternoons in October and November there will be a course in bacteriology. In January there will be optional courses in pathology, and during the last half of the second year a number of elementary subjects leading up to the clinical work of the third and fourth years will be pursued, such as auscultation (and percussion?), clinical chemistry, theory and practice, therapeutics, surgical pathology, bandaging, and clinical medicine.

These changes are represented as experimental. Who is to judge of the success of the experiment? It can not be judged of in less than a generation, and the judgment must be based on the ultimate achievements of the men who are educated on the plan. Harvard men have thus far done well, and in our opinion there is much wisdom in letting well enough alone. The graded course itself is not yet beyond the stage of trial, and we question if it is wise to refine it to the degree indicated. So astute a teacher as the late Dr. Alfred L. Loomis declared himself in favor of clinical teaching during the whole course, and we are much inclined to agree with him. It is, to our way of thinking, absurd to argue that because a man has not come to his full strength in anatomy, physiology, etc., he can not study a case of disease or injury to his lasting advantage. Nevertheless, we shall look with interest on Harvard's experiment.

THE INDIANA STATE MEDICAL SOCIETY'S DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY.

The exhibition of pathological and bacteriological specimens given in Columbus on the occasion of the recent meeting of the American Medical Association was a novel and most praiseworthy feature. It was given under the auspices of the Indiana State Medical Society, and was managed by a committee consisting of Dr. Frank B. Wynn, of Indianapolis (chairman), Dr. H. G. Gaylord, and Dr. A. W. Bitting, representing the society's Department of Pathology and Bacteriology. The collection had been shown at the society's meeting on June 2d, and had been considered so satisfactory that the meeting had made a generous appropriation to defray the expense of its display in Columbus, which was then and there decided upon. In all, there were between seven and eight hundred specimens shown, and to great advantage, it must be said, when we take into account the limitations under which the committee must have found themselves obliged to act. We understand that the committee not only supervised the exhibition, in itself no small labor, but actually collected the specimens, with the assistance of Dr. Roscoe Ritter, Dr. Conrad Marxer, Dr. Leland Westover, Dr. W. T. S. Dodds, and a number of medical students.

Two hundred and four of the specimens were photographs, two hundred were bacteriological, thirty-five were illustrative of comparative pathology—a matter on which the committee most properly laid stress in their report to the society—and the remainder exemplified embryology and the pathology of the bones and joints, the digestive system, the respiratory apparatus, the circulatory system, the nervous system, the genito-urinary tract, and the organs of special sense, and the abnormities of obstetrics and gynæcology. For a collection made and arranged within a comparatively brief period of time, as we understand it was, it showed most commendable activity and enthusiasm on the part of the committee and their associates, and no doubt it will prove the nucleus of a museum of which the Indiana State Medical Society will grow prouder and prouder year by year, for it will attest most strikingly the members' devotion to a work second to none in the task of perfecting our science and art. We congratulate the society and its committee on their creditable showing.

PELVIC CONTRACTION IN AMERICAN WOMEN.

It has generally been thought that pelvic contraction was quite rare in American women, but Dr. J. Whitridge Williams, associate professor of obstetrics in the Johns Hopkins University and obstetrician-in-chief to the Johns Hopkins Hospital, recently read before the Gynæcological and Obstetrical Society of Baltimore a paper, founded on the first thousand confinements in the hospital, which rather tends to lessen one's confidence in the freedom of our women from undersized pelvic straits. Dr. Williams's paper is published in the May number of the new journal called *Obstetrics.* There has, to be sure, been a lack of unanimity among our American obstetricians as regards this point. The late Dr. Lusk, for example, is cited by Dr. Williams as stating that pelvic contraction is very rare in native-born American women, while rickets and osteomalacia are absolutely unknown. Hirst, on the other hand, is cited as saying that the frequency of contracted pelvis has been decidedly underestimated.

Dr. Williams finds that there is a great diversity in the percentages of pelvic contraction in the statistics from various places in the same country. In Germany, for instance, they range from 7.9 per cent. in Basle to 24.3 in Dresden; in Austria, from 2.15 to 7.8 per cent.; and in the United States, from 1.13 per cent. in Boston to 11.45 per cent. in Baltimore, as reported by Dobbin. To some extent this diversity seems to be accounted for by variation in the meaning that the term pelvic contraction has for different observers; some of them count as instances of contracted pelvis all those in which any measurement is below the standard, while others set down only those in which the deformity is so pronounced as to impede labor. Dr. Williams puts down the Baltimore percentage as somewhat higher than that given by Dr. Dobbin, namely, 13.1 per cent., and this, he thinks, corresponds very closely with the average of frequency observed in Germany.

The relative frequency of pelvic contraction in Baltimore, according to Dr. Williams, is in great measure due to the presence of a large black population in that city; 469 of his thousand cases were in colored women. It is the æquabiliter justo minor pelvis that predominates among black women, in whom it is more than five times as common as in white women. This, says Dr. Williams, is not what one would expect, in view of the fact that rickets is extremely common among the negroes of the South, and it is contrary to what is generally stated. Dr. Williams points out the interesting fact that there is a remarkable tendency in black women to a lack of correspondence between the external and the internal pelvic measurements. He properly accords to contraction indicated by external pelvimetry only the importance of hinting at the existence of corresponding contraction internally, but he implies that it rarely has even this significance in black women; he does not hesitate to declare that half of them would be found defective by external measurement, while in the great majority internal pelvimetry would reveal no contraction.

We do not gather from Dr. Williams's study that all his white patients were native American women. It would be strange if they were, for native white women do not resort largely to hospitals when they are about to be confined. All things considered, perhaps the general impression of the rarity of pelvic contraction among American-born women need not be further modified than to restrict it to the white race.

SHOP ASSISTANTS AND SEATS.

The *Lancet* for May 27th has an editorial on the "causes of female disease distinctly traceable to the practice of continually standing in shops." The *Lancet* says that the only argument with any semblance of legitimacy that has been advanced against providing shop assistants with seats is that sitting is conducive to idleness. It distinctly shows up the fallacy of that idea, and on the contrary enunciates the view that the very fact that the girl is *not* allowed to sit down is conducive to idleness of the worst kind—the idleness of pretending to do something when nothing really is being done. If the girls, it says, were allowed to sit in the intervals, they would be recuperating from fatigue and so be able to render better service. The *Lancet* has long done yeoman service in this cause for English shop girls. In 1880 it published a black list of large firms which refused to provide seats for their female employees, the effect of which was very marked. The *Lancet* now makes the following appeal: "To the true woman—the woman with feelings for her sisters, the woman of love and sympathy, the true woman in every sense of the word—we appeal for help in this matter. If such women would abstain from purchasing at shops where they see that the employees are compelled to work from morning till night without permission to rest from their labors even when opportunity occurs, we should soon see the end of a practice which ruins the health and shortens the lives of many of our shop girls. To such women we feel that we shall not appeal in vain, especially when we remind them that the physical vigor of the future race depends even more upon the health and strength of woman than it does upon the health and strength of man." England is not the only place where this barbarous custom prevails of compelling shop girls to stand during their long, weary working hours, and we trust that something will be done here in this city of New York to secure for shop girls the right to rest in the intervals of their labor, thus preserving their own health and that of the future mothers of many a young American.

"THE SIGN OF THE FOOT" AND THE DREYFUS CASE.

OUR readers are of course familiar with the fact that when a man is sitting with one leg thrown comfortably over the other, the foot that is hanging loose undergoes a little movement at each beat of the heart. While the charge against Captain Dreyfus was pending, the Marquis du Paty de Clam made a psychological study of the prisoner. Among other things, he suddenly asked Dreyfus a question calculated to arouse emotion in him if he was guilty. Dreyfus was in the posture mentioned, and the movements of his foot were suddenly intensified. The marquis urged this as a proof of the prisoner's guilt, and it really seems to have played a part in securing his conviction. Dr. A. Lutaud combated the marquis's inference at the time, and quite justifiably, we think, but we can not agree with Dr. Lutaud when he says now, in a sarcastic article reflecting on du Paty de Clam (*Journal de médecine de Paris*, June 4th), that such movements of the foot, which he calls "instinctive," have nothing to do with the movements of the heart. The movement has been called "the sign of the foot," but Dr. Lutaud proposes to call it "du Paty's sign."

THE TREATMENT OF PULMONARY TUBERCULOSIS BY SUBCUTANEOUS INJECTIONS OF VASELINE.

M. H. WEBER, of Saarbrucken (*Presse médicale*, May 31st), made a communication to the Berlin Congress for Tuberculosis in which he pointed out that various facts had called his attention to the phenomenon that a blood highly charged with carbonic acid seemed inimical to the growth of the tubercle bacillus. He referred to Bier's treatment, by means of venous hyperæmia; the rarity of pulmonary tuberculosis in cardiac diseases accompanied by a pulmonary venous stasis; the frequency of the occurrence of tuberculosis in the apices, which were "insufficiently irrigated" (*mal irrigués*); and the frequency of tuberculosis in persons whose blood contained but little carbonic acid. Vaseline, a hydrocarbon which is oxidized in the system into water and carbonic acid, seemed to him a suitable agent for carrying out this treatment. He therefore treated thirty patients by injecting daily beneath the skin of the back ten cubic centimetres of vaseline. On occasion, he gave three injections in a day. Of these thirty cases he considered eighteen, for the most part in advanced stages, practically cured, inasmuch as for some months the patients had returned to their work and seemed to be in good health. Six others still under treatment were in a fair way to recovery; in four the cases were too recent to pass judgment upon; and two had succumbed to the phthisis. This is suggestive, and to some extent confirmatory, of Hildebrandt's views as to the modus operandi of abdominal section in peritoneal tuberculosis.

THE DANGER OF SEXUAL CONNECTION FOR SUBJECTS OF HÆMOPTYSIS.

MONCORGÉ (*Médecine moderne*, May 10th; *Indépendance médicale* for May 31st) calls special attention to the particular danger of copulation for phthisical patients subject to hæmoptysis. Not only is sexual connection contrary to the necessity of conserving the vital forces, but it seems to have a special determining influence, according to this observer, on attacks of hæmoptysis. Whenever the author meets with a case of sudden nocturnal hæmoptysis of undetermined cause, he always bears this question in mind. It is not difficult to conceive that the exertion and vascular excitement occasioned by the act might determine hæmoptysis in a patient predisposed thereto; and in any case, should such a thing occur at night, it affords a good opportunity for impressing upon the patient the necessity of abstention from all sexual excitement.

THE OVARIES IN RELATION TO SEX FORMATION.

WE published in our last issue a note upon the Roulette of Pregnancy in reference to the theory of Dr. Nicolopoulos that the right ovary produced males and the left females. The *Journal de médecine de Paris* for May 28th publishes an observation by Winckel, of Munich, which is rather an awkward fact for Dr. Nicolopoulos's theory. Dr. Winckel at one time removed the left ovary of a woman, thirty-seven years of age, who had already had five daughters and four sons. After the removal of the left ovary she should, in accordance with Nicolopoulos's view, which appears to be only a practical application of Seligson's theory, have been capable of producing only boys; but of five subsequent pregnancies the result was three girls and two boys. This observation precludes the possibility of even an explanation based upon transposition of the viscera.

"SHADOWGRAPHS" OF MICROSCOPIC OBJECTS.

THE illustrations given in connection with Dr. Hartigan's article, published in this issue, seem to show great nicety in the representation of minute details of structure, although they are considerably reduced in size from the author's original photographs. We may well imagine that the process he describes is likely to be used extensively for purposes of demonstration.

THE UNEXPLAINED ESCAPE OF AN OVARY.

IT is rumored that an ovary with a cyst as large as a chestnut was recently found in a dissecting-room subject. We may fancy that the demonstrator of anatomy and his assistants are still wondering how it eluded the oophorectomists.

POEHL'S SPERMINE AS AN AID TO THE VISUAL POWER.

Whatever promises to revive the waning power of sight is certainly worthy of attention. At a recent meeting of the Ophthalmological Society of St. Petersburg (*Presse médicale,* May 20th) Dr. Yakovlev reported a gratifying degree of success (inversely proportionate to the loss of vision, but amounting to nothing in cases of total blindness) in the treatment of atrophy of the optic nerve by means of Poehl's spermine in Professor Belliarminov's service. It was injected subcutaneously, and fifteen injections produced all the benefit that was to be obtained from the treatment. Analogous results had been achieved in chronic chorioiditis and alcoholic amblyopia, but not in acute cases.

THE *INDEX MEDICUS* AND THE PARIS *INSTITUT DE BIBLIOGRAPHIE.*

With characteristic vehemence, Dr. Marcel Baudouin (*Gazette médicale de Paris,* June 10th), after properly recounting the excellence of the *Index Medicus* and announcing the suspension of its publication, declares that its discontinuance is a disaster to medicine and calls upon the *Institut de bibliographie* to take up the work without a week's loss of time. We trust that it will be resumed, but we can not see that the exigency is quite so sharp as Dr. Baudouin pictures it, especially as the new series of the *Index-Catalogue* is well under way and will doubtless be succeeded by still other series.

"BOSSISM" AND FIRST AID TO THE INJURED IN PARIS.

Our progressive colleague Dr. Marcel Baudouin, the editor-in-chief of the *Gazette médicale de Paris,* laments in the issue of that journal for May 27th the futility of his attempts to secure the establishment of an efficient system of rendering prompt aid to the injured. It is in vain, he says, that the municipal council has voted in favor of his project; the all-powerful A. J. Martin, grand master of inertia and malevolence, stands in the way of its enforcement. The occasion of Dr. Baudouin's plaint is the accident of a man's actually being hurt seriously in a duel and failing to receive prompt and effective medical aid.

THE PHYSICIAN AS A PIONEER IN CIVILIZATION.

In a well-conceived editorial article entitled The Medical Factor in Imperial Expansion, the *Lancet* for May 27th sets forth impressively the importance of the part played by two medical missionaries, Dr. David Livingstone and Dr. Stewart, in extending civilization in Africa by the power, not alone of religion, but also of "nature-study in its medical department." There can be no doubt of the truth of the *Lancet's* view that religion and medicine are powerful allies in reclaiming savage races, and it would not be strange if American counterparts of Livingstone and Stewart were soon to find themselves in the Philippine Islands.

DISPLACEMENT OF THE EYEBALL IN A GLASS-BLOWER.

The popular tradition that the eyeball can be "laid out on the cheek, scraped, and put back again" is almost justified by a case reported by Dr. Fritz Schanz, of Dresden (*Beiträge zur Augenheilkunde,* xxxiv; *Deutsche Medizinal-Zeitung,* June 8th). It was that of a glassblower accustomed to blowing with his cheeks instead of with his chest. This in time led to distention of Stenson's duct to the size of the urethra, so that the parotid gland was blown up with the man's efforts. Moreover, the oro-nasal cavity came eventually to communicate with the orbit, so that when the man blew his nose enough air found its way into the orbit to cause the eyeball to protrude beyond the palpebral fissure. The optic nerve had suffered in consequence; at least the visual power had been reduced to less than half without any changes recognizable with the ophthalmoscope.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 24, 1899:

DISEASES.	Week ending June 17.		Week ending June 24.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	18	6	16	5
Scarlet fever	136	13	130	14
Cerebro-spinal meningitis	0	14	0	7
Measles	375	16	330	12
Diphtheria	219	31	198	30
Croup	10	10	7	3
Tuberculosis	128	117	165	145
Small-pox	3	2	2	2
Chicken-pox	62	0	21	0

The Paris Society of Obstetrics, Gynæcology, and Pædiatrics, at the meeting of June 2d, elected Dr. A. Jacobi, of New York, a foreign member.

The St. Louis Medical Society.—At the last regular meeting, on Saturday, June 24th, Dr. Thomas F. Rumbold read a paper entitled Fifty Years' Study and Practice of Rhinology.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the supervising surgeon-general during the week ending June 24, 1899:

Small-pox—United States.

Washington, D. C.	June 3–10	1 case.	
Jacksonville, Fla	June 3–19	5 cases.	
Brunswick, Ga	May 16–June 10	6 "	
Macon, Ga	June 3	2 "	
Savannah, Ga	June 14	6 "	
Chicago, Ill	June 10	1 case.	
Evansville, Ind	June 3–17	4 cases.	
Louisville, Ky	June 15	5 "	
New Orleans, La	June 17	1 case.	
Boston, Mass	June 17	1 "	
Fall River, Mass	June 13	2 cases.	
	Total,	32 "	
Bronson Township, Mich	June 3–17	Present.	
Delray, Mich	June 3–17	Present.	
Franklin Township, Mich	June 3–17	Present.	
St. Louis, Mo	June 12–19	9 cases.	
Bloomfield Township, N. J.	June 3	1 case.	
Ocean Township, N. J	June 13	26 cases.	
Ocean County, N. J	June 14	1 case.	
Columbus, Ohio	June 17	3 cases.	
Philadelphia, Pa	June 3–10	21 "	
Philadelphia, Pa	June 10–17	17 "	
New York, N. Y	June 17		5 deaths.
Norfolk, Va	June 19	1 case.	
Milwaukee, Wis	June 17	1 "	1 death.

Small-pox—Foreign.

Antwerp, Belgium	May 27–June 3	1 case.	
Bahia, Brazil	May 20–June 3	1 "	
Nuevitas, Cuba	June 17	Present.	
London, England	May 27–June 3	1 case.	
Liverpool, England	May 27–June 3	4 cases.	
Bombay, India	May 14–23		11 deaths.
Calcutta, India	May 6–13		1 death.
Athens, Greece	May 27–June 3	16 "	7 deaths.
Chihuahua, Mexico	June 3–10		1 death.
Nuevo Laredo, Mexico	May 27–June 3		2 deaths.
Moscow, Russia	May 20–27	15 "	3 "
Odessa, Russia	May 27–June 3	10 "	1 death.
St. Petersburg, Russia	May 20–27	18 "	2 deaths.
Warsaw, Russia	May 11–16		1 death.
Constantinople, Turkey	June 1–7		1 "
Smyrna, Turkey	May 14–21		2 deaths.
Montevideo, Uruguay	May 6–13	4 "	

Yellow Fever—Foreign.

Bahia, Brazil	May 20–27	101 cases,	34 deaths.
Panama, Colombia	June 13	18 "	9 "
Puerto Principe, Cuba	June 21	2 "	
	Total,	3 "	
Santiago, Cuba	June 16	6 "	
Santiago, Cuba	June 19	1 case,	2 deaths.
Tampico, Mexico	June 5	1 "	
Vera Cruz, Mexico	June 8–15	117 cases,	61 "

Cholera.

Bombay, India	May 16–23		1 death.
Calcutta, India	May 6–13		27 deaths.
Karschi, India	Apr. 24–May 1	1 case.	
Maulmain, India	Apr. 15–30	Epidemic.	

Plague.

Bombay, India	May 16–23		174 deaths.
	officially reported.	Probably	500 "
Calcutta, India	May 6–13		53 "
Kurrachee, India	Apr. 9–16		203 "
District of Kurrachee and Province of Sinde, India.	Apr. 24–May 1	251 cases,	175 "
Mauritius, India	May 1	3 "	

Yale University.—The annual address in medicine was delivered on Tuesday, June 27th, by Professor Charles S. Minot, of Harvard University.

The Buffalo Academy of Medicine.—At the last meeting of the Section in Obstetrics, on Tuesday, June 27th, Dr. William P. Spratling, of Craig Colony, Sonyea, N. Y., presented a paper entitled A Study of the Temperature Laws in Epilepsy, based on One Thousand Observations.

Changes of Address.—Dr. Harrison C. Allen, to No. 274 Fifty-first Street, Brooklyn; Dr. R. E. Coughlin, to No. 286 Forty-seventh Street, Brooklyn; Dr. Andrew F. Currier, to No. 113 East Fortieth Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 17 to June 24, 1899:*

Bath, Thomas W., Acting Assistant Surgeon, will proceed to Fort Leavenworth, Kansas, to accompany Troop F, Sixth Cavalry, to San Francisco, and then report to the commanding general, Department of California, for duty.

Borden, William C., Captain and Assistant Surgeon, is granted leave of absence for two months, to take effect on or about June 1st.

Boss, Rufus D., Acting Assistant Surgeon, will proceed to New York city for duty.

Combe, Frederick J., Major and Surgeon, United States Volunteers, is assigned to duty at the medical supply depot, Santiago, as officer in charge, relieving Geddings, E. V., Acting Assistant Surgeon, who will report at Santiago for duty.

Fuller, Leigh A., First Lieutenant and Assistant Surgeon, will report to the commanding officer at the United States Military Hospital, No. 1, Havana, for duty.

Gardner, Edwin F., Major and Surgeon, is granted leave of absence for one month.

Girard, Joseph B., Major and Surgeon, is granted leave of absence for one month on account of sickness, with permission to leave the limits of the department.

Gray, William W., Major and Surgeon, will proceed to Fort Logan, Colorado, to accompany the Twenty-fifth United States Infantry to Manila.

Hicks, John R., Acting Assistant Surgeon, will proceed to Fort Riley, Kansas, to accompany Light Battery C, Third Artillery, to San Francisco.

Raynor, Willis J., Acting Assistant Surgeon, will report to the commanding officer of the Twenty-fifth United States Infantry to accompany that regiment to Manila.

Summerall, W. B., Acting Assistant Surgeon, will proceed to Matanzas, Cuba, for duty.

Swift, Eugene L., Captain and Assistant Surgeon, is detailed as a member of the general court martial at Fort Slocum, New York.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending June 24, 1899:*

Atlee, L. W., Surgeon. Detached from the *Boston* and ordered to the *Bennington.*

Dickson, S. H., Surgeon. Ordered to the Washington Navy Yard, July 1st.

Furlong, F. M., Assistant Surgeon. Detached from the *Independence* and ordered to the *Solace* temporarily, for passage to the Asiatic Station.

Herndon, C. G., Surgeon. Ordered home to await orders, on completion of temporary duty at the recruiting rendezvous at Chicago, Cleveland, etc.

Marmion, R. A., Medical Inspector. Detached from the Washington Navy Yard, July 1st, and ordered home to await orders.

Ward, B. R., Passed Assistant Surgeon. Detached from the *Bennington* and ordered to the *Boston.*

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Week ending June 22, 1899:*

Irwin, Fairfax, Surgeon. Granted leave of absence for three months from July 8, 1899, with permission to go beyond the sea.

Carter, H. R., Surgeon. Detailed as quarantine officer of the port of Havana, Cuba, under the provisions of Executive Order of January 17, 1899.

Banks, C. E., Surgeon. To proceed to New York for special temporary duty.

Wertenbaker, C. P., Passed Assistant Surgeon. To proceed to Danville, Virginia, for special temporary duty.

Smith, A. C., Passed Assistant Surgeon. Granted leave of absence for thirty days from July 15, or when relieved.

Stewart, W. J. S., Passed Assistant Surgeon. Granted leave of absence for fifty-two days from June 19, 1899.

Cofer, L. E., Assistant Surgeon. To proceed to El Paso, Texas, as inspector.

Sibree, H. C., Acting Assistant Surgeon. Granted leave of absence for ten days from June 21, 1899.

Wakefield, H. C., Acting Assistant Surgeon. Granted leave of absence for thirty days from June 15, 1899, on account of sickness.

Gahn, Henry, Hospital Steward and Chemist. To proceed to New York on special temporary duty.

Mason, W. C., Acting Assistant Surgeon. Granted leave of absence for six days from June 26, 1899.

Promotion.

Slough, Charles, Junior Hospital Steward. To be senior hospital steward.

Resignation.

Stewart, W. J. S., Passed Assistant Surgeon. Resignation as passed assistant surgeon accepted as tendered, by direction of the President, to take effect August 9, 1899.

Society Meetings for the Coming Week:

Monday, *July 3d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society; Corning, New York, Academy of Medicine; Utica, New York, Medical Library Association; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Chicago Medical Society.

Tuesday, *July 4th:* Elmira, New York, Academy of Medicine; Ogdensburgh, New York, Medical Association; Syracuse, New York, Academy of Medicine; Hudson, New Jersey, County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Medical Society of the University of Maryland (Baltimore).

Wednesday, *July 5th:* Medical Society of the County of Richmond, New York (New Brighton); Bridgeport, Connecticut, Medical Association.

Thursday, *July 6th:* Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, New York, Medical Society of City Hospital Alumni, of St. Louis; Atlanta Society of Medicine.

Friday, *July 7th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

Saturday, *July 8th:* Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

Aiken—Murray.—In Buffalo, on Tuesday, June 20th, Dr. Alexander Wallace Aiken, of Chicago, and Miss Maude Summerville Murray.

Allen—Corey.—In New York, on Wednesday, June 14th, Dr. Harrison E. Allen, of Brooklyn, and Miss Allene Corey.

Brown—Coombs.—In Providence, Rhode Island, on Wednesday, June 21st, Dr. Frederick Nathan Brown and Miss Mary Woodhull Coombs.

Buvinger—Craig.—In Wilkinsburg, Pennsylvania, on Wednesday, June 21st, Dr. Charles J. Buvinger and Miss Mollie T. Craig.

East—Young.—In Baton Rouge, Louisiana, on Wednesday, June 21st, Dr. Albert L. East and Miss Annie Young, daughter of Dr. I. T. Young.

Glennan—McIntosh.—In San Juan, Porto Rico, on Monday, May 15th, Dr. Arthur Henry Glennan, United States Marine-Hospital Service, and Miss Mary Clark McIntosh.

Grey—Austin.—In Port Byron, New York, on Friday, June 23d, Dr. George H. Grey and Miss Ella Ruth Austin.

Kilby—Francis.—In Taunton, Massachusetts, on Tuesday, June 20th, Dr. Henry S. Kilby, of North Attleboro, Massachusetts, and Miss Mercy E. Francis.

Mosher — Patterson. — In Medford, Massachusetts, on Wednesday, June 14th, Dr. Marshall J. Mosher, of Waltham, Massachusetts, and Miss Elizabeth L. Patterson.

Ramsay—Cowling.—In Albany, New York, on Monday, June 5th, Dr. Otto Gustave Ramsay, of Baltimore, and Miss Clara Pillot Cowling.

Died.

Couch.—In Somerville, Massachusetts, on Monday, June 19th, Dr. William A. Couch, in the forty-second year of his age.

O'Reilly.—In New York, on Monday, June 26th, Dr. James O'Reilly, aged seventy-one years.

Letters to the Editor,

GARGLING AS A REMEDY FOR HICCOUGH.

Putney, Vt., *June 20, 1899.*

To the Editor of the New York Medical Journal:

Sir: Permit me, through the *Journal*, to call the attention of physicians and others to the relief afforded by gargling the throat in hiccough. I have had no very serious cases; but in *every* case where a gargle has been used it has been prompt and effective in its results. In most cases, once gargling has been sufficient. Cold, warm, and slightly medicated waters have been severally used, but the act of gargling seems to be the one thing needful. I should like to have this method of relief *thoroughly* tested.

Laura M. Plantz, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS

By ARTHUR N. TAYLOR, LL. B.

XXV.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(*Continued from vol. lxix, page 899.*)

Failure to Reduce Dislocation.—While in some cases, like the one above given, the question of the physician's liability for unskillfulness and negligence grows out of his failure to discover the extent of the injury sustained, it more frequently happens that the question of liability arises where the character and extent of the injury are discovered, but the fact of whether or not the physician effected the relief attempted is disputed. Questions of this sort frequently arise in cases of dislocation in which the injury is treated with supposed success, but after weeks, or perhaps months, it is found that the bones are not in proper place. Upon the trial of this class of cases the testimony is almost always conflicting, that of the patient tending to show that the dislocation was never properly reduced, while that of the physician positively denies the failure to properly reduce the dislocation, and accounts for the bones subsequently being found to be dislocated by negligence of the patient or his failure to observe instructions, or other similar cause.

In the case of Rowe *vs.* Lent,* the patient suffered a dislocation of the right shoulder. The family physician, after considerable effort and some difficulty, succeeded, as he claimed and still claims, in reducing the dislocation. The injury occurred in January, and the physician continued to attend the patient until July 24th following, when he claimed a cure had been effected. He frequently saw the patient, however, and examined the shoulder between this date and August 13th, when the patient left his home, going to the seashore to take sea baths. On about the 14th of August the patient was examined at a New York city hospital, and it was found that his shoulder was dislocated. The surgeon in charge made an attempt to reduce the dislocation, but was unsuccessful. The injury still continues and is conceded to be permanent. Upon the question of whether or not the dislocation had ever been properly reduced, there was some non-professional testimony introduced at the trial that the right shoulder did not look like the left; but some of the expert testimony tended to show that the difference in appearance might exist even if the dislocation had been properly reduced.

The case was submitted to the jury, who found for the plaintiff. The general term of the supreme court refused to disturb the verdict of the jury, and, after laying down the general rule that a physician must possess a reasonable degree of learning and skill, said: "The test, however, seems to be, whether in the case on trial the requisite skill, care, and diligence were employed, and not whether the practitioner is reputed to possess such skill. But the surgeon is not necessarily chargeable with want of the requisite skill, or negligence and want of care, simply because he does not succeed in accomplishing the desired result. Human skill can not relieve all infirmities, ills, or injuries to which mankind is subject, and the only test, therefore, that can be applied is whether in a given case the surgeon has exercised reasonable skill and attention in his treatment of the patient who has placed himself under his care, and whom the latter has undertaken to treat. As we have seen in this case, that the question was before the jury upon evidence somewhat conflicting, and the whole case was fully and fairly left to them by the charge of the trial judge given in an able and impartial manner, to which no exception was taken by the counsel for the defendant, and the jury upon this conflicting evidence found in favor of the plaintiff. While perhaps they might, upon this evidence, have found either for the plaintiff or defendant, there is sufficient evidence in support of their conclusion to uphold a verdict, and the court upon appeal can not say their verdict was either against the evidence or unsupported thereby." The foregoing quotation is made at this considerable length for the reason that it so clearly marks the policy of the courts and of the law in suits of this character.

An interesting suit, based upon the alleged failure of the physician to reduce a dislocation, is that of Carpenter *vs.* Blake, decided by the supreme court of New York in 1871. The patient was thrown from a horse and her elbow joint dislocated. The defendant was called to attend the injury and claims that he properly reduced the dislocation; the patient, on the other hand, claims that he did not succeed in restoring the bones to their places, or, if he did succeed in the original operation, that he failed to employ proper measures to keep them there, and upon this theory brought suit.

The evidence produced at the trial was voluminous and conflicting. The injury occurred on June 28th, and the defendant was called at once to attend the injury. The plaintiff testified that the physician simply drew the arm around his knee and placed it on a pillow at her side, bent at nearly a right angle; that she did not hear the characteristic "snap" caused by the bones falling into place, and that there was no relief from the pain.

The defendant testified that upon setting the joint he extended and rotated the arm and applied his hand to the joint, satisfying himself that the bones were in place; the plaintiff denied that he applied either of these tests. It is conceded that the defendant did not measure the arm to determine beyond peradventure that the bones were in proper position. The plaintiff and other witnesses testified that they observed a protuberance at the elbow joint the night of the injury, and compared it with the other elbow and inquired what it was. It appeared that the arm retained, when not controlled by splints, about the same position it was in after the first attempt to reduce the dislocation, and at no time could the plaintiff move it without producing severe pain. The defendant insisted that she must move it. When she attempted it, the pain was so great she had to call for help, and even then had to cease the attempt because of the suffering it caused. This was known to the defendant, and yet it did not seem to put him on inquiry whether he had not failed to properly set or treat the arm. The plaintiff was satisfied that the joint was never properly set, and so told the defendant; and, to ascertain whether or not her suspicions were correct, called other doctors. This was in the latter part of August, about two months after the injury was received. The defendant deserted the case at about this time. Other physicians were then called, and, after rendering the patient unconscious by the use of anæsthetics, reduced the dislocation. The bones, however, soon returned to their former position, and have remained there ever since. The jury upon this evidence found for the plaintiff, assessing the damages sustained at two thousand dollars.

Failure to Apply Extension.—In the case of Barns *vs.* Means * the improper treatment complained of was the failure of the physician to properly extend the broken limb from which the patient was suffering, whereby the wound healed improperly. The evidence showed that the fracture of the larger bone was oblique, and near the upper part of the lower third of the limb; the fracture of the smaller bone was transverse, and was from two to three inches above the ankle joint. The defendants were called at once and dressed the injury within twenty or thirty minutes after the bones were broken, but did not use extension or counter-extension. The excuse made by the defendants for not extending the limb and using counter-extension to hold it in place was that the extreme tenderness and swelling would not permit of their so doing, and they introduced evidence to show that some days after the fracture was adjusted they did attempt extension and counter-extension, but that the patient could not endure it. Upon the question of the condition of the limb at the time the injury was first adjusted there were several witnesses who were then present and who testified that no swelling had then occurred.

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* Rowe *vs.* Lent, 42 N. Y. S. R., 483.

* Barns *vs.* Means, 82 Ill., 379.

An expert testified before the jury that the shortening was caused by the lapping of the bones; that the first duty of the surgeon was to bring the bones to their proper position by extension and counter-extension, and if necessary he placed the patient under the influence of chloroform; and that if the patient would not allow a proper adjustment of the fracture he would abandon the case.

The trial judge, in instructing the jury upon the law applicable to the case, said: "That if you believe, from the evidence that, in the treatment of fractures of bones, regard should be had to the direction in which the break occurred; and if the jury believe, from the evidence, that the fracture of the bones of the plaintiff, which the defendants treated, required extension in order to secure the proper adjustment of the parts to each other, and that the defendants did not use any means to secure extension, but, by want of skill, or by negligence, suffered the broken fragments to be or become displaced, and that thereby the plaintiff has suffered and become permanently lame and disabled, as charged in the declaration, you should find the defendants guilty." Upon this instruction, which was held to be a correct statement of the law applicable to the case, the jury found for the plaintiff and assessed the damages at one thousand dollars.

The foregoing cases being thought sufficient to illustrate the application of the general rule of liability, a more critical examination will now be made as to the particular requirements of the rule.

Degree of Knowledge, Skill, and Care Required.—The part of the general rule upon which the courts seem to have found the greatest difficulty in agreeing is that relating to the amount or degree of knowledge, skill, and care that the physician is obliged to possess and exercise to escape from liability for injurious results that may follow his treatment. To place the test as that degree exercised by the *thoroughly educated* members of the profession would be manifestly unjust to the great majority of the physicians and surgeons, while a test requiring only that skill exercised by the *moderately educated* members would be equally unjust to the public. Upon this reasoning the supreme court of Iowa placed the test as the average of the skill and diligence ordinarily exercised by the profession as a whole.* While this rule is probably a just one and about right in theory, it is doubted whether any practising physician knows what is the "average of the skill and diligence ordinarily exercised by the profession as a whole," and, as he is the proper judge of whether a given act will stand this test, the utility of the rule is doubted.

While the degree of care necessary to be bestowed in a particular case is governed in a great degree by the requirements of that case, a rule of law demanding that the degree of care and skill required shall be proportionate to the severity of the injury or disease treated would manifestly work a great hardship upon the profession. Such a rule was very wisely and justly rejected by the supreme court of Illinois.*

The location of the particular practitioner should also be taken into consideration in determining the amount of knowledge and science he shall possess and the degree of care and skill he shall exercise, because, for reasons heretofore referred to, the physician and surgeon practising in our large cities may be reasonably required to possess higher qualifications than those in small towns or rural districts. This indulgence should not, however, be allowed to the country practitioners to the extent of permitting them in each particular neighborhood or community to establish by their own professional standing the standard of requirement for that community; for, in the words of Justice Worden, "there might be but few practising in the given locality, all of whom might be quacks, ignorant pretenders to knowledge not possessed by them, and it would not do to say that because one possessed and exercised as much skill as the other he could not be chargeable with the want of reasonable skill." After due regard for all of these conditions, a number of our courts in well-considered decisions have determined the proper test to be that there shall be required of the physician and surgeon that amount of knowledge, skill, and experience, and the exercise of that degree of care and skill which physicians practising in *similar localities* ordinarily possess and exercise.†

Illustrations.—A case illustrating the application of the law very nicely is that of Small *vs.* Howard.‡ In this case the plaintiff, who had cut through the whole inside of the wrist to the bone, severing all the arteries and tendons, called upon the defendant for treatment. The defendant was a physician and surgeon residing in a country town of about twenty-five hundred inhabitants, and had no experience in surgery beyond that usually had by country surgeons. The result of the treatment not being satisfactory, suit was commenced for malpractice in dressing and caring for the wrist. Upon the trial one expert called by the plaintiff testified that he did not think the average country surgeon would be likely to possess the requisite skill to care for this wound. The evidence of the experts regarding the propriety of the treatment given the injury was conflicting, some testifying that it was properly treated, others the contrary. The court, upon the principle in consideration, instructed the jury that "the defendant, undertaking to practise as a physician and surgeon in a town of comparatively small population, was bound to possess that skill only which physicians and surgeons of ordinary ability and skill, practising in similar localities, with opportunities for no larger experience, ordinarily possess; and he was not bound to possess that high degree of art and skill possessed by eminent surgeons practising in large cities, and making a specialty of the practice of surgery. He is not responsible for want of success, unless it is proved to result from want of ordinary care and attention, and then only to the extent of the injury caused by his want of skill and neglect, nor for the whole consequence of the particular original injury or disease. He is not presumed to engage for extraordinary skill or extraordinary care and diligence."

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* Smothers *vs.* Hanks, 34 Ia., 286; Almond *vs.* Nugent, 34 Ia., 300.

* Utley *vs.* Burns, 70 Ill., 162.

† Whitesell *vs.* Hill, Ia., 37 L. R. A., 830; 70 N. W. Rep., 750.

‡ Small *vs.* Howard, 128 Mass., 131.

The jury, applying this instruction to the evidence before them, found a verdict for the defendant. The plaintiff, being dissatisfied, appealed, but the trial of the case, including the instruction of the trial judge, from which the above quotation was taken, was approved by the supreme court.

The case of Hathorn vs. Richmond* is somewhat peculiar, and one in which there is considerable law. The plaintiff, whose leg was fractured, sent for his regular physician. The regular physician declined to take the responsibility of reducing the fracture and laid the leg on a double inclined splint, to make the patient as comfortable as possible. On the following day the defendant was sent for and reduced the fracture. The regular physician continued to attend the case nearly every day for about twenty-two days, when another physician was called to take his place. The defendant, who had reduced the fracture, did not call again until five days after the operation, and then only by reason of a letter written him by the regular physician at the request of the patient's friends, especially requesting him so to do. At the time of making this call the patient did not seem to be dissatisfied with the services rendered by the defendant and made no claim of improper treatment. For what purpose he was called, or what he did, if anything, while there, the report of the case does not show. It seems that the leg was bandaged too tightly, and as a result the injury followed for which suit was brought. The defendant claimed that he was only sent for to take charge of setting the leg with the assistance of the regular attending physician, and that he did this properly, and then left plaintiff in the hands of the regular physician as his patient, without any expectation of again visiting the case unless specially sent for. All the surgeons called on the part of the defendant testified that the surgeon applying the dressing in any such case could not tell whether the bandage might prove too tight or too loose, but that this matter must necessarily be left with the attending surgeon, whose duty it was to examine carefully in reference thereto, and adjust the dressing and bandages as might be needed. No evidence was offered to contradict this.

It was conceded and treated in the trial that the course taken with the limb in the interval between the time defendant left the patient after he had finished dressing the injury and his second visit, five days later, was lacking in proper and ordinary skill and care.

In the matter of general professional requirements, the trial judge instructed the jury, in effect, that the defendant would be held to possess such knowledge and skill and exercise such care and judgment as that ordinarily possessed and exercised by doctors in the same general neighborhood and in the same general lines of practice; and that they should determine from the evidence whether the defendant did possess such knowledge and skill; and if they decided this question in the affirmative they should determine whether he used ordinary care in dressing the leg. This instruction the supreme court held to be correct.

The trial judge continued with his instruction to the jury, charging them that if they found the defendant was wanting in the proper exercise of skill in the tightness of the bandage, still, if his employment ceased when he had set and dressed the limb, and the treatment of the case fell to the attending physician, and it was the duty of the attending physician to discover that the bandage was too tight and to loosen it and redress the limb, and if by such proper loosening and redressing of the limb the injury of the tight bandage could have been prevented, then the defendant would not be liable for the injury. The supreme court denied the correctness of the instruction upon the following grounds: It will be observed that this instruction assumes that the bandage was negligently applied by the defendant. From this fact it will necessarily follow that the improper application of the bandage will begin to exert an injurious influence upon the limb from the moment it is applied, and therefore it would be manifestly unjust to assert that the defendant is not liable for the injury inflicted by this negligently and improperly applied bandage during the ten or, perhaps, twenty-four hours which must elapse before the attending physician can detect the improper bandaging and give relief. Moreover, the court declined to intimate whether it would relieve the defendant from liability for the injury resulting from his improper bandaging after the time when the attending physician should have discovered that the bandage was too tight and given relief, or whether it would hold him liable for all damages resulting from his own improper bandaging and the assistant's negligence in failing to readjust the bandage. The judgment rendered for the defendant in the original trial was accordingly reversed and the case sent back for a new trial. In view of the open question left by this decision, it can hardly be considered prudent for a surgeon to dress an injured member and leave all subsequent treatment to the regular attending physician, relying upon him to correct any inadvertency which may have attended the original operation or treatment.

(*To be continued.*)

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* Hathorn *vs.* Richmond, 48 Vt., 557.

Pith of Current Literature.

Overexcitability, Hypersensitiveness, and Mental Explosiveness in Children.—Dr. T. S. Clouston (*Scottish Medical and Surgical Journal,* June) says that the vagueness and variety of these conditions have prevented them from being systematically described. They are all referable to the brain cortex as their immediate *locus,* and almost all are pathogenetically states of deranged reactiveness of the neurones of the higher regions of the brain. They are none of them dependent on febrile states, though in some of them the temperature may be a little raised. There is no real pyrexia in a proper sense, the elevations, if present, being accountable for by increased and somewhat uncontrolled nerve action. In all of them the higher inhibitory centres are weakened absolutely or relatively to the amount of energizing they have to control. He does not include among them conditions of delirium or unconciousness, or night terrors; nor does he put the systematized motor explosions or convulsions, limited or general, in their category, or class them as out-and-out "mental diseases." They are not within the legitimate bounds of "temper," "peculiarity," or "temperament," in any strict and proper sense of those terms, vague as they are in meaning, and many and varied as are the psychological sins which those terms are made to cover. They have no necessary relation to congenital mental weakness or defect in the ordinary sense. Yet in many cases they are brain cousins to certain kinds of delirium and convulsions, they often have a spice of insanity about them, and they frequently look exceedingly like uncontrolled bursts of temper or wickedness. They can mostly be traced, as to their ultimate cause, to hereditary and congenital peculiarities. There may be many exciting causes for their appearance at any special time, but the predisposing cause is nearly always defect in the subtile and most obscure process of central nerve development in the child.

The first of those morbid states to which the author directs attention is a simple hyperexcitability; an undue brain reactiveness to mental and emotional stimuli. This may come on at any age, from three years to puberty. The child becomes ceaselessly active, but ever changing in its activity. It is restless, and so absolutely under the domination of the idea which has raised the excitement that the power of attending to anything else is for the time being gone. When any joyous or pleasurable news is heard or any new toy is got, or any striking object is seen—a new dog or pet, or a child friend—there results a wild delight, quite incommensurate with the cause, even for a child. It laughs, jumps, makes faces, throws itself on the ground, makes semichoreic movements of its body, and gives way to a sort of delirium of pleasure. In a short time it can neither be quieted nor its attention directed to anything else. This state is, in fact, a morbid exaggeration of the normal state of a healthy child of a nervous temperament. But it comes on in bursts in this exaggerated morbid form. The liability to it lasts for perhaps a few months or a year, the child during this time tending to get thin, not sleeping soundly, and not getting on with its education if that has begun. It seems to consist essentially of a sort of automatism of the emotional centres in the brain uncontrolled by the centres of inhibition. Those emotional centres must be hyperæsthetic, and the motor equivalents and expressions explosive during such an attack, for an attack of nervous disease it is in many cases. The eye is bright and restless, the pulse quickened, and the general state one of unhealth.

A somewhat analogous condition is sometimes met with in children of from three to ten where they become subject to stimuli, not mental as those last described, but from the senses—particularly from the special senses—in too keen a degree. Any loud noise will startle them and "upset" them badly, or will put them into a condition of trembling and terror. Any unusual or terrible sight will cause sleeplessness, tendency to nightmare, and a condition bordering on hallucination. Such sights they revivify and "visualize" very intensely, to their great distress and the disturbance of every one near them. At such times such children become sometimes intensely sensitive to pain of any kind or to unusual impressions on their skin, crying at every slight cause of that kind and not stopping their weeping soon and forgetting all about it as the healthy child does. The author has never seen such a condition of oversensitiveness and overreactiveness from nerve excitation in the senses of smell or taste. But certainly impressions of heat and cold may have such accentuated effects. It seems as if in such cases it was the special sense centres in the cortex that had become hyperæsthetic, just as the emotional centres had become hyperæsthetic in the cases previously described.

Another state which is certainly of the nature of disease is that where children become for a time so overimaginative that they can not distinguish between their objective experiences and their subjective images, and where, without stimuli from without, mental or bodily, they conjure up fancies so vivid that they mistake them for realities and talk about them accordingly. Of course all children, especially the sensitive and clever children of neurotic ancestry, have this tendency in a large degree, but while free from actual disease they can, by a slight effort, distinguish between the real and the imaginary. No doubt, the author says, all children are more or less liars physiologically, but those of whom he is speaking are automatic and quite involuntary tellers of stories which have little or no foundation in fact. The intensity and actuality of their imaginations are greater than is consistent with a sound working brain. The normally limited power of young children to come to sound conclusions about things from the facts at their disposal is in those he is describing reduced to the vanishing point, and this condition in its marked and morbid form comes and goes. At times their brains seem capable of realizing facts and real impressions, and at other times they are simply the slaves of their overexcited imagination. No doubt, in certain matters and on certain occasions all children may exhibit such a peculiarity without any brain condition that it would be proper to call disease, but when it gets to be the habitual state for several weeks or months and then passes off, one must conclude that some change of brain working of a morbid kind had taken place through which such mental effects were produced.

The next variety of this general class of cortical explosiveness is one which the author believes to be comparatively frequent. Its general features are as follows: A child of between four and ten, of nervous temperament, bright, attractive, forward, and clever, has worms, or a bad cold, or some child complaint which reduces the nutrition and interferes with growth. She—for it is more common, he thinks, among girls—becomes capricious in appetite, irritable in temper, and has disturbed sleep and troubled dreams. Then comes a stage of what seems like very bad temper. The child resists authority, is driven wild by coercion, and when so roused assumes a maniacal and furious look. In that state she will fly at those who contradict her or who will not comply with her requests, is dull and stupid at lessons, to which she is most averse, and is strange and perverse in her likes and dislikes to persons, foods, and inanimate things. She expresses suspicion and even hatred of mother, governess, and sisters, is profane in language, and often prefers an unnatural solitariness of habits. Such a state is not, however, constant. The child returns to an affectionate and obedient mood, but even then is changed in certain ways from its normal self. Very little contradiction or discipline, and sometimes no such outward source of disturbance, is needed to rouse the demon in her again. When at her worst she looks really maniacal, scarcely can be roused to answer ordinary questions, her power of attention and learning lessons is gone, and no "motives" whatever act as they should do. She is all the time thin and getting thinner, looks an unhealthy color, often acquires tricks of picking the nose, grinding the teeth, scratching the skin, or making faces.

The author once saw a girl of seven with the symptoms described in a marked and aggravated degree. There was no suspicion of imbecility and no proof of epilepsy. The child was bright and gay when well, but impulsive and wayward when ill, and for a few hours almost every day she was a perfect little demon. But at night she would be effusively affectionate and as charming as possible. Learning lessons was, of course, out of the question. Of anything like discipline or comfort to those about her there was none. Worms were suspected, and she was treated for them, but none existed. Tubercular meningitis was suspected, but there was no proof of it. She was put on a purely milk and farinaceous and fruit and cod-liver oil diet—she had been rather a ravenous flesh eater. A motherly, sensible Scotch nurse was recommended instead of a governess, the mother being young and inexperienced. A daily routine of exercise in the fresh air and suitable play were prescribed, and that she should be read to from not too imaginative and exciting books, and forty-five grains of bromide of potassium were given daily with a minute quantity of arsenic. For a month only a few good effects resulted, but she in no way got worse. At the end of that time she began steadily to improve. She slept better, she became less subject to her paroxysms of irritability and temper, and she got to like her new dietary. In six months she had almost entirely recovered, and became a sweet, intelligent, fairly manageable child, with no such morbid and explosive "tempers" as previously described, a comfort and attraction at home instead of being a source of the deepest anxiety. The bromide agreed perfectly all the six months it was taken, and acted manifestly as a diminisher of irritability and a promoter of nervous stability. Its permanent use was stopped when she got over the paroxysms, but a dose was given every day for a week when there seemed any unusual temper or excitability.

As to prophylaxis, much may be done by a physiological *régime* of life, and a nourishing but not too stimulating dietary that will steady the neurotic and explosive tendency in such a case.

In both sexes cases of persistent ungovernable sexual excitement occur through masturbation, several years before normal puberty comes on. No doubt in some of those cases there are local sources of irritation and excitement, but in most of them the source of the unnatural excitement is central and cortical. So far as can be made out, it is not attended by the normal mental sexual imaginings of full development, but has more of an automatic character. It is accompanied in many cases by most depraved sexual language and a loss of all decency of conduct. It seems like an outburst of energy on the part of those centres in the brain which preside over the reproductive functions before the organs and apparatus had come to maturity. In two cases it seemed to the author as if animal sexual habits had been "reverted" to, such as attempts to lick and smell the sexual organs of the opposite sex. One great difficulty, however, was to find out how far such practices had been taught such children by vicious elders. The author has certainly seen in children morbid outbursts of what in older people would have been called "immorality" and attempted non-sexual crime, developing like a disease and passing away in a few weeks or months, leaving them morally as they had been before. He quotes several cases in illustration.

The author thinks that this whole class of cases has the common characteristic of an explosive condition of the nerve cells in the higher cortex very analogous to the state of the motor cortex in ordinary epileptics. The catabolism of the cells is morbid. In the rapid and marvelous development of the brain in childhood these cells not only multiply fast in number, but undergo a process of gradually becoming more stable in action. Where there is a hereditary tendency to neurotic conditions this process or nerve-steadying certainly seems not to go on satisfactorily in certain children, and an irregularly explosive tendency results. We know now, too, from Flechsig's observations, that in childhood new strands of fibre connections are constantly being formed and opened up between the great cell areas in the brain. No doubt every such connection that is completed stirs up such cell areas to new activity by bringing them into relationship with other functional areas. The inhibitory apparatus has to be strengthened with the widening of the areas of possible work but also of possible disturbance. All nerve cells are normally explosive in action in a certain way. The physiological explosiveness of cortical nerve cells has to be prevented from becoming pathological convulsion, either motor or mental.

So far as the author's experience of drugs goes, he has found the bromides by far the most effective in restraining normal nerve-cell action from assuming pathological forms. They must be given judiciously and with reference to the age of the patient, the acuteness and the nature of the symptoms, and the effects of the drugs in each case as seen by a skilled observer. They must often be given fearlessly in large doses up to the point when the symptoms of bromism are beginning to show themselves. One thing is certain, if they are to do any real good they must be given for long periods. Tonics and food medicines are given at the same time as the bromides, and the diet must receive never-ceasing attention. Milk will be found the sheet-anchor in dieting all such neurotic children. Environment too, fresh air, suitable amusements, companionship, control, employment must be looked to, and the schoolmaster must be regarded for the time as an aid to treatment and so under the doctor's orders.

Such an explosive brain need not remain uneducated, but it must receive its education in a physiological and medical fashion.

Red Light as a Therapeutic Agent.—The *Lancet* for June 10th says that in our conscious superiority to our forefathers we have been used to look with contempt on their practice of treating cases of small-pox by means of red light in the form of red blinds, curtains, and coverlets, but with our present knowledge of the chemical and physical action of the different rays of the spectrum and the influence of light and darkness on life in its highest and lowest manifestations we may have felt a suspicion that, whatever the theory of the mediæval physicians, their practice may have had a scientific basis. In the last number of the *Zeitschrift für Krankenpflege* we find that it has been tried, and apparently with remarkable results, in the treatment of measles. A child, eight years of age, having sickened with an attack of measles of more than usual severity, was on the second day brought under the influence of the rays of least refrangibility, the windows being fitted with red blinds and a photographer's lamp with an orange-yellow globe being used for artificial light. In three hours the rash had disappeared, the fever had subsided, and the child was playing cheerfully, complaining only of want of light. The blinds were consequently removed, when three hours later the medical man was summoned to find that the eruption and fever had returned and the child was weak and prostrate. The red light having been resumed, the rash disappeared in little over two hours, as did the fever, this time permanently. In two more days the cough had ceased and the child was well in every respect. The brother and sister and a fourth patient infected from the first case were treated in the same way and with like success. In the great epidemic of small-pox in 1871–'72 some cases were reported as having been kept in dark rooms with great benefit, especially as regards the pustulation and pitting. Clearly, what virtue there may be in this method lies in the exclusion of actinic rays, and the substitution of red or orange light for total darkness has obvious advantages, as in the case of photographic manipulations.

A Simple Method of Reducing Shoulder Dislocations by Manipulation.—Miller (*Scottish Medical and Surgical Journal*, May; *International Medical Magazine*, June) commends, as almost invariably successful, a simple method of manipulation for subcoracoid dislocation. The patient is seated, the arm grasped at the wrist and above the elbow and flexed to a right angle at the elbow. An assistant stands at the other side of the patient and steadies the scapula with both hands. The arm is then carried carefully outward and upward with outward traction until it is at right angles with the body. This procedure is designed to relax the supraspinatus and deltoid, to unlock the neck of the humerus from the deltoid edge, and to bring the humeral head in close apposition to the glenoid cavity. As soon as the muscles are felt to relax, an internal rotation of the humerus, produced by dropping the hand, will cause the articular head to glide into place. The additional aid of an anæsthetic, of free circumduction to enlarge the rent in the capsule, or of pressure, by the thumb and fingers in the axilla, upon the head of the humerus, may be required. While these procedures have been successfully employed by many surgeons in combination with other methods, the author claims to have systematized them upon a scientific basis.

New Method of Inducing Premature Labor.—Spinelli (*Archivio italiano di ginecologia*, December, 1898; *International Medical Magazine*, June) asserts that his method can be performed by the general practitioner; no especial instruments are necessary, and it starts labor in two or three hours with no danger. The patient being prepared for operation, the posterior lip of the cervix is seized and the cervix dilated with a dilator, if necessary, to admit one finger. The finger is crooked and carried up until the membranes are detached from the posterior surface. A yard of gauze saturated in ten-per-cent. ammonium ichthyolate and glycerin is then passed up on the finger and digitally pushed up higher and higher, care being taken not to rupture the membranes. Nearly the whole of the gauze can be introduced. The vagina should be plugged with sterile gauze and the patient put to bed. Pains begin very soon after the introduction of the gauze, and labor comes on rapidly.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of April 5, 1899.

The Vice-president, Dr. Charles E. Quimby, in the Chair.

The Importance of an Operation in the First Stage of Thrombosis of the Sigmoid Sinus; with a Report of Three Cases.—Dr. Gorham Bacon read this paper. (See page 7.)

Dr. Emil Gruening said that the paper had presented the following symptoms of sigmoid thrombosis—viz., earache, fever, chill, and discharge. According to some, pyæmia did not necessarily mean thrombosis of a vein, it being held that there might be direct absorption of pyogenic organisms from the middle ear. It was for this reason that the opening of the mastoid was performed first. The pupils of Schwartze had led astray a great many, because of their erroneous statement that the sole feature of the operation was the laying open of the mastoid antrum. This was only one feature of the operation. In these cases one found tenderness early not only over the antrum but over the tip. It was the latter which showed the extension of the mastoid disease downward. In New York this operation of Schwartze's had been developed without deviating materially from the original method. No one could deny that Schwartze was the great pioneer in this field. The operation on the antrum, as performed in New York to-day, was not simply the opening of the mastoid antrum, but the opening up of every cell that might be involved, and the exploration of the sigmoid sinus and the roof of the antrum. When such a thorough operation had been performed, and in spite of it there were chills and fever, the diagnosis of sinus thrombosis was more justified, and the operation for this condition should be at once undertaken. The wall of the sinus would be found thickened, and perhaps there would be granulations on it. Very often these granulations were a protecting coat, and hence the scraping away of them was not always advisable. Mere thickening of the adventitious coat of the sinus did not necessarily indicate that the intima was affected, and that there was a thrombosis; on the contrary, under such circumstances there was usually no thrombosis. In those cases in which the thrombosis occurred at an early stage the wall would be found friable and easily permeable. There might be a very small thrombus, and still the symptoms be very severe. He was of the opinion that the extent of the clot had nothing whatever to do with the severity of the case. A small thrombus which did not entirely fill the lumen of the vessel was often more dangerous than a well-formed clot completely filling the canal, especially if it contained streptococci. The aspirating needle was of no use in these cases; the sinus must be compressed below, and a clear cut made into it. Koerner, one of the most scientific workers in this field, had said that in many of these cases of fever and chill there was no thrombosis, and had expressed the opinion that there was an osteophlebitis—a septicæmia, and not a thrombosis of the sinus. It would obviously be very wrong to ligate the sinus when there was no thrombus present. On the other hand, Leukert had asserted that whenever there was chill with high fever in these cases, thrombosis was present, even though it might escape detection. The bulb of the jugular vein was often overlooked in post-mortem examinations, yet it was quite common, according to this observer, to find the clot at this point. This authority took the view that in the presence of high fever and chills, where other disease could be excluded, ligation should always be done, even though the thrombus was not discovered. Theoretically this would seem to be the correct position. It was especially difficult, even after a thorough operation on a child, to say that there was a thrombosis simply because of the existence of fever and chills. A case was cited in which the fever and chills were proved, by the administration of quinine, to have been the result not of a thrombosis, but of malarial infection.

Dr. FREDERICK WHITING said that when Zaufal in 1880 had first suggested that when a clot existed in the sigmoid sinus, although it might have undergone disintegration, there was a possibility, if the jugular vein were tied and its suppurative contents removed, that recovery would take place, the idea had been received with a great deal of incredulity on the part of the medical profession. Up to that time these cases had been diagnosticated so late in the disease that they had been regarded as "inoperable." In 1884 Zaufal had done the first operation of this kind, with an absolute ignorance of the proper technics, and without antiseptic precautions. As the case had promptly terminated fatally, it had been some time before the operation had been again advocated. But since that time our knowledge of the symptomatology and the technics had been greatly enlarged, and there had been many successes, both abroad and in this country. Many of these successes had been achieved by the reader of the paper of the evening. At the present time, it seemed as though the operation was deferred longer than was desirable. The first stage of sinus thrombosis was that in which there was phlebitis of the sigmoid and lateral sinuses, with a fibrinous clot that had not yet undergone purulent liquefaction. The second stage was that in which purulent liquefaction occurred. In the first stage of sinus thrombosis the prognosis was absolutely good if the patient was not yet septic and his vitality was good. When the case passed into the beginning of the second stage the patient was septic and was not in a favorable condition for operation. In the third stage of sinus thrombosis peripheral and central embolic metastases took place, and the outlook from operation was exceedingly gloomy. Two authorities had made themselves conspicuous by advocating avoidance of operation in the first stage of thrombosis, preferring to wait until it was positively known that the thrombus was infected. But the very fact that there was infective inflammation of the bone, extending into the vessels connecting with the sinus, seemed to the speaker sufficient to prove that the clot was infected. It did not follow, of course, that this infection might be sufficient to cause a breaking down of the thrombus. Usually there was a local central infected focus. Hesler was one of those who advised postponing operation until it could be proved by microscopical and bacteriological examination that the clot was infected. Such a clot might be primarily infected, and the very fact of making repeated punctures for the withdrawal of blood for such an examination would probably be sufficient to result in its disintegration. The needle might be inserted in twenty places and yet not happen to reach the small septic focus. It was evident, therefore, that even an examination of this kind could not be looked upon as conclusive proof of the infective or non-infective character of the thrombus. On the other hand, Koerner, the highest authority on purulent and infectious disease of the cranial cavities, had made the statement that an operation should be resorted to just as soon as the diagnosis was made.

Dr. J. H. WOODWARD congratulated the reader of the paper on his great success in the cases reported. The importance of early operation in sinus thrombosis must be evident after the remarks of the preceding speakers; to his mind, not only the early operation but the one in the second stage of sinus thrombosis was desirable. It was generally held that infectious infarction of the lung was a fatal malady, yet authentic cases were on record in which recovery had taken place. The pyæmic temperature and chill were, of course, significant symptoms, but they might be present, as had already been said, without any thrombosis. Last year he had reported to this society a case of cerebellar abscess terminating fatally. Prior to death there had been a pyæmic temperature and well-marked rigors. The autopsy had revealed no thrombosis in the sigmoid, or any other sinus. Recently he had operated in a case of purulent discharge from the ear which had lasted for many years. The last relapse had occurred in February, and Dr. Woodward had first seen the patient on February 21st. Three days before this the first chill had occurred, and during the week previous there was considerable pain in the region of the mastoid. The temperature was 103° F.; there was purulent discharge from the ear with bulging of the membrana tympani, and the patient was decidedly stupid. There was tenderness in the region of the junction of the sigmoid and lateral sinuses. Under chloroform anæsthesia the speaker made an incision along the whole extent of the membrana tympani, but very little pus escaped. This incision was made because a more radical operation could not have been undertaken that afternoon. The next morning the radical operation was done. This revealed the presence of an extradural abscess. There was no sinus thrombosis, and the sinus pulsated synchronously not only with the heart, but with the respiratory movements. This patient made an uninterrupted recovery. Not long ago the speaker had operated upon a child of two years and a half by opening the mastoid antrum and evacuating a deep cervical abscess. On the day after the operation the temperature was 105° F., but it subsided with the reduction in the inflammation which had existed in the opposite tympanum. When the tip of the mastoid was involved, he said, one might be misled into thinking that the sinus was involved. A positive diagnosis could be made in many instances only by an exploratory operation. This exploration should extend, if necessary, to the cerebellum or the spheno-temporal lobe. Infective thrombosis of the sigmoid sinus had been diagnosticated by excellent clinicians as typhoid or malarial fever, so that the physician should be constantly on guard in such cases. The cases reported in the paper this evening, it should be noted, were acute, and quite early symptoms of mastoid involvement had been shown. He was of the opinion that acute purulent inflammation of the middle ear usually led early to more or less inflammation of the neighboring structures in the mastoid region. The best way to prevent sinus thrombosis was by attacking these cases early, doing a radical operation. It seemed to him that too much importance was laid upon the simple incision of the membrana tympani. When there was reason to believe that the mastoid cells had been encroached upon the mastoid antrum should be laid open, and treated thoroughly and radically. He had known the wound to heal within ten days under proper management. In cases of chronic suppurative otitis media also he believed in an early and radical operation as a positive and successful prophylactic measure. Macewen had given the clearest idea, he thought, of the lines on which these operations should be done, and if they were followed there was but little danger of infection of the interior of the cranium.

Dr. C. E. QUIMBY said that while the success of the operation might depend upon the surgeon, the opportunity for successful operating seemed to depend very largely upon the physician. It was not uncommon to meet with suppuration of the ear associated with very small rupture of the drumhead, and he would like to know if incision and irrigation constituted the proper treatment here.

Dr. BACON said he was of the opinion that free incision was an important and desirable procedure. Where the drum membrane had been perforated spontaneously the opening was usually very small, and in such cases, unless a free incision was made, mastoid involvement was very prone to occur. He took exception to the remark made by Dr. Gruening to the effect that thickening of the wall of the sinus and the existence of granulations did not usually indicate the presence of a thrombus, for, in all three of the cases reported in the paper, thickening of the sinus wall had been the condition found at the operation. The division of the disorder into stages was certainly convenient, even if perhaps not strictly scientific. If the patient's condition was favorable, and he was not likely to die on the table, he would favor operating, even in the second stage. In only one of the three cases reported had there been marked swelling of the entire wall of the external auditory canal.

Book Notices.

BOOKS, ETC., RECEIVED.

Electro-hæmostasis in Operative Surgery. By Alexander J. C. Skene, M. D., LL. D., Professor of Gynæcology in the Long Island College Hospital, Brooklyn, etc. New York: D. Appleton and Company, 1899. Pp. x–173.

A System of Medicine. By Many Writers. Edited by Thomas Clifford Allbutt, M. A., M. D., LL. D., F. R. C. P., F. R. S., F. L. S., F. S. A., Regius Professor of Physic in the University of Cambridge, etc. Volume VI. New York: The Macmillan Company, 1899. Pp. x–3 to 944. [Price, $5.]

A Systematic Treatise on Materia Medica and Therapeutics. With Reference to the most Direct Action of Drugs. By Finley Ellingwood, M. D., Professor of Materia Medica in the Bennett Medical College, Chicago, etc. With a Condensed Consideration of Pharmacy and Pharmacognosy by Professor John Uri Lloyd, Ph. D., Late President of the American Pharmaceutical Association, etc. Chicago: The Chicago Medical Press Company, 1899. Pp. 7 to 706.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Volume II. June, 1899. Surgery of the Abdomen, including Hernia—Gynæcology—Diseases of the Blood. Diathetic and Metabolic Disorders. Diseases of the Spleen, Thyreoid Gland, and Lymphatic System — Ophthalmology. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. vi–2 to 468.

A Manual of Surgical Treatment. By W. Watson Cheyne, M. B., F. R. C. S., F. R. S., Professor of Surgery in King's College, London, etc.; and F. F. Burghard, M. D. and M. S. (Lond.), F. R. C. S., Teacher of Practical Surgery in King's College, London, etc. In Six Volumes. Volume I. The Treatment of General Surgical Diseases, including Inflammation, Suppuration, Ulceration, Gangrene, Wounds and their Complications, Infective Diseases and Tumors, and the Administration of Anæsthetics, by Dr. Silk. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. xiv–285. [Price, $3.]

Aseptic Duties of a Surgical Nurse or Dresser. By John O'Conor, M. A., M. D., Senior Medical Officer, British Hospital, Buenos Aires. Buenos Aires: John Grant & Sons, 1899. Pp. 5 to 23.

Notes on Malaria in Connection with Meteorological Conditions at Sierra Leone. By Major E. M. Wilson, C. M. G., D. S. O., Royal Army Medical Corps, Lately Senior Medical Officer at Sierra Leone. Third Year. London: H. K. Lewis, 1899. Pp. 15.

Modesty, Courtship, and Woman's Right. By R. P. Brorup. Chicago: The International Book Company, 1899. Pp. 203.

Reasons and Authorities Favoring Educational Unification under the Regents of the University.

Transactions of the American Association of Obstetricians and Gynæcologists. Volume XI. For the Year 1898.

Seventeenth Annual Report of the Provincial Board of Health of Ontario. For the Year 1898.

Angina Ludovici Complicating an Acute Suppurative Otitis; Recovery. By M. D. Lederman, M. D. [Reprinted from the *Medical Record.*]

An Unusual Case of Sinus Thrombosis and Epidural Abscess Complicated by Malaria. Operation; Recovery. By M. D. Lederman, M. D. [Reprinted from the *Medical Record.*]

The Relations of Movable Kidney and Appendicitis to Each Other and to the Practice of Modern Gynæcology. By George M. Edebohls, M. D. [Reprinted from the *Medical Record.*]

Chronic Appendicitis the Chief Symptom and Most Important Complication of Movable Right Kidney. By George M. Edebohls, M. D. [Reprinted from the *Postgraduate.*]

The Hernia Guarantee and the Minimum of Confinement after Operations for Appendicitis with and without Pus. By George M. Edebohls, M. D. [Reprinted from the *Medical Record.*]

Chronic Nephritis Affecting a Movable Kidney as an Indication for Nephropexy. By George M. Edebohls, M. D. [Reprinted from the *Medical News.*]

Adenoid Vegetations. By Carle Lee Felt, M. D., of Philadelphia. [Reprinted from the *Memphis Lancet.*]

The Pathogenesis of Cholelithiasis in the Light of the Latest Investigations. By Francis E. Fronczak, M. D., of Buffalo. [Reprinted from the *Buffalo Medical Journal.*]

Compound Dislocations. By Francis E. Fronczak, M. D. [Reprinted from the *Buffalo Medical Journal.*]

The Nomenclature of the Ocular Movements. By Alexander Duane, M. D. [Reprinted from the *Ophthalmic Record.*]

Divergent Strabismus Cured by Correction of Myopia. By Alexander Duane, M. D. [Reprinted from the *Ophthalmic Record.*]

The Schleich Method of General Anæsthesia, with Special Reference to Nose, Throat, and Ear Practice. By W. Scheppegrell, M. D., of New Orleans. [Reprinted from the *Memphis Lancet.*]

Miscellany.

The Bearing of the Zeitgeist on Insanity.—The *Tri-State Medical Journal and Practitioner* for May, in an editorial on The Increase and the Modern Causes of Insanity, quotes the following apposite remarks of Dr. John H. Girdner from the *North American Review:*

"The struggle for existence, modern inventions, steam and electricity, and the mad rush for wealth, result in ever-increasing demands upon the brain and nervous system. And under this strain, many who have congenital or acquired defective nervous organizations become insane, just as the same class formerly did as a result of fear and brooding over theological problems.

"The insane are not now tormented by the devil and his imps, but telephones and phonographs are continually ringing in their ears. Others suppose they have steam engines in their heads, and many imagine they are persecuted by men of large fortunes or of great political power. Formerly, those who were afflicted with delusions of grandeur were prone to imagine themselves to be the Saviour of the world or the Virgin Mary, or some eminent saint. Now they are more apt to think themselves to be great inventors or powerful politicians, or the possessors of untold wealth. The delusions of the insane always take form and color from the questions and problems which are most absorbing at the time."

The Necessity of Individualism in Medical Practice.—Dr. William Osler (*Albany Medical Annals*, June), in an address to the students of the Albany Medical College, said: Be careful when you get into practice to cultivate equally well your hearts and your heads. There is a strong feeling abroad among people—you see it in the newspapers and you see it in the Associated Press dispatches—that we doctors are given over nowadays to science, that we care much more for the disease and the scientific aspects of it than for the individual. I don't believe it, but at any rate, whether there is that tendency or not, I would urge upon you in your practice in the future, to care particularly for John and Elizabeth, as George Eliot says—but I will not add especially for Elizabeth—to care more particularly for the individual patient than for the special features of the disease. I am sure all of you must feel, even those of you who have only been a single term in the professional work, that you have entered upon a profession that appeals both to the heart and to the head. Dealing as we do with poor, suffering humanity, we see the man unmasked, exposed to all the frailties and weaknesses, and you have got to keep your heart pretty soft and pretty tender not to get too great a contempt for your fellow creatures. The best way to do that is to keep a looking glass in your own hearts, and the more carefully you scan your own frailties the more tender you are for the frailties of your fellow creatures.

A Clever Rondeau.—*Practical Medicine* for June quotes from the *Indiana Medical Journal* the following very clever rondeau, which, we believe, originally appeared in the *Boston Medical and Surgical Journal.* We venture, however, with apologies to the unknown author, to make an emendation, as the form is not strictly in accordance with that of the rondeau after Voiture's generally accepted model, which demands in the alternation of rhymes the following order—a, a, b, b, a—a, a, b (not a, b, b, as in the original of the following verse):

A Misconception.

"I can't conceive," she archly cried,
"Wherein you men can longer pride
Yourselves from female rivals free,
For surely we have grown to be
Your peers in every human stride.

"That is a truth that none may hide;
So why you men will not decide
To recognize the new degree
I can't conceive.

"Now *entre nous* won't you confide
And tell me true, all jokes aside,
What difference the world can see
Between your manly self and me?"
"To tell you truly," he replied,
"*I* can't conceive."

Deaths under "Christian Science."—Reports of deaths more or less directly due to "Christian Science" are coming in so rapidly from all parts of the country that the patience with which the country endures the crimes of the would-be exorcists is simply amazing. Notes of protest are, indeed, to be heard coming from various directions, but most of them are sounded by organizations of little influence or authority, like the Medico-legal Society of this city, or in courts of limited jurisdiction and unimpressive powers. The great medical associations, State and county, content themselves with occasional ridicule of the "Scientists" and their dupes, but they do nothing effective, while the various legislatures ignore altogether this danger to the life and health of the whole population of the country and devote their energies to matters many of which are of much less public importance. Meanwhile the high priestess of ignorant credulity intermits her propaganda only long enough to make affidavit that she is not yet dead, and, having demonstrated her continued existence, proceeds industriously with the appointment of new book agents and the acquisition of more wealth. All this is amusing enough in its way, but it is also humiliating and dangerous. Every "Christian Scientist" is a potential centre of infection for bodies as well as minds, and that the victims of this infection are many is shown every day that passes.—*New York Times.*

The William F. Jenks Memorial Prize.—The College of Physicians of Philadelphia announces that the fifth triennial prize of five hundred dollars, under the deed of trust of Mrs. William F. Jenks, will be awarded to the author of the best essay on The Various Manifestations of Lithæmia in Infancy and Childhood, with the Ætiology and Treatment. The conditions annexed by the founder of this prize are that the "prize or award must always be for some subject connected with obstetrics, or the diseases of women, or the diseases of children"; and that "the trustees, under this deed for the time being, can, in their discretion, publish the successful essay, or any paper written upon any subject for which they may offer a reward, provided the income in their hands may, in their judgment, be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said trustees. In case they do not publish the said essay or paper, it shall be the property of the College of Physicians of Philadelphia." The prize is open for competition to the whole world, but the essay must be the production of a single person. The essay, which must be written in the English language or, if in a foreign language, accompanied by an English translation, must be sent to the College of Physicians of Philadelphia before January 1, 1901, addressed to Richard C. Norris, M. D., chairman of the William F. Jenks prize committee. Each essay must be typewritten, distinguished by a motto, and accompanied by a sealed envelope bearing the same motto and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay. The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year. The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

The Italian Society of Laryngology, Otology, and Rhinology will hold its fourth meeting in Rome in October, under the presidency of Dr. Giuseppe Gradenigo, of Turin.

The Orleans (Louisiana) Parish Medical Society.—At the meeting of June 9th Dr. C. Jeff. Miller reported a case of a large fibroid of the uterus and a fibroid of the ovary in the same patient. Supravaginal hysterectomy was performed. The fibroid of the uterus weighed six pounds and three quarters, that of the ovary three pounds and a half. Another case of interest was the removal of the vulvar tissues for extensive epithelioma in a colored woman only twenty years of age. The woman's age rather suggested a chancroidal ulceration, but the clinical picture was striking, and two specimens were pronounced epithelioma by the pathologist. The woman had never borne a child.

A New Italian Pharmaceutical Journal.—The *Annali di farmacoterapia e chimica* is the title of a journal which is the continuation of the *Annali di chimica applicata alla medicina*, of the *Rivista di chimica medica e farmaceutica*, and of the *Annali di chimica e farmacologia*. It is edited by Professor Bufalini, of Florence; Professor Baldi, of Pisa; and Professor Coronedi, of Sassari, and published in Milan.

The Medical Society of the State of Colorado held its twenty-ninth annual meeting in Denver on June 20th, 21st, and 22d, under the presidency of Dr. W. A. Campbell, of Colorado Springs. The address in medicine, on Arteriosclerosis, was by Dr. Robert H. Babcock, of Chicago; that in surgery, on The Satisfactory Results Obtainable by Operative Treatment in Disfiguration of the Face and Ears, by Dr. John B. Roberts, of Philadelphia.

Criticism in an Epitaph.—An esteemed Canadian correspondent writes to us as follows:

The following lines were brought by an aggrieved husband to the proprietor of a marble works to be inscribed on a tombstone. The evident object of the man was to injure the doctor rather than to perpetuate his wife's memory. Needless to say, the epitaph was not cut in marble, but filed away as an object of curiosity, and as such is presented to your readers *verbatim et literatim.*

"The deth of Jane. Smith whife of John. Smith aged 36 years Whose life Was haisened a Way By dr. Scalpel on the 16th of feBuary 1882

With out one moments Warning
With Cloriform and
the Nife i lost my life
and O my infant dauter
Was made a slauter the
SCull Been put a sunder"

The American Proctological Society.—At the first meeting, held in Columbus, on June 6th and 7th, the president, Dr. Joseph M. Mathews, of Louisville, delivered an interesting address setting forth the importance of giving rectal diseases special study. He said: "It is a notorious fact that there is more quackery practised in the diseases of the rectum than in any other department of medical practice. This state of things is to be deplored. After an experience of twenty years in this work, I wish to say that these important and most serious affections should be entitled to a separate and special consideration; and who will dare to say that those who practise them are not entitled to the privilege of forming themselves into a society? Nothing will contribute more to the advancement and to the elevation of this long-neglected subject than this contemplated organization. The principal part of our knowledge must ever come from comparing our own observations with those of others; then how apparent to all must be the utility which the society of proctologists will afford in opportunities for the mutual communication of thought and action!"

Pruritus of the Anus.—At the same meeting Dr. James P. Tuttle, of New York, read a paper in which he stated that the term pruritus ani had for the scientific physician only a vague significance, but for its victims the affection was portentous. He stated that it should be dealt with, first, constitutionally; second, locally. He was not a believer in *pruritus ani essentialis.* The constitutional condition upon which the theory of this disease was founded he admitted, and reckoned it an important element, but insisted that there was always an exciting cause for the disturbance, and upon this cause would depend the physical appearance of the parts. Among the causes enumerated, he mentioned the *Oxyuris vermicularis*, colitis, sigmoiditis, catarrhal diseases of the rectum, and uricæmia. These pathological conditions he had found most often in obstinate and obscure cases. Nitrogenous diet, alkaline diuretics, salicylic compounds, and hot baths composed the general routine of treatment. Local applications of carbolic-acid solutions, larkspur, black wash, salicylic acid, chloral hydrate, extract of conium, camphor, cocaine, tar, etc., might all be useful in one form or another.

A Modification of Whitehead's Operation for Hæmorrhoids was described at the same meeting by Dr. Earle, of Baltimore. It consisted in clamping the tumors by sections, beginning at an incision in the fourchette, where a primary incision was made to determine the depth at which to place the clamp. After the removal of the tissue above the clamp piecemeal, a continuous suture, beginning at the primary incision, was inserted around the clamp. When the first section had been cut away and sutured, the clamp was removed and the suture drawn taut; then the clamp was again put in position and kept there until the whole anal circumference had been treated. He stated that he had given this method a thorough trial, and unhesitatingly said it was the safest, the easiest, and by far the best method that he had ever tried. The operation was practically bloodless, and healing by first intention was secured. The convalescence was complete at the end of a week. Dr. Earle demonstrated his method of operating at St. Anthony's Hospital.

The Act of Defæcation was the subject of a paper by Dr. Thomas Charles Martin, of Cleveland, read before the same meeting. He said that a knowledge of the anatomy of the rectum was necessary to form an appreciation of the physiology of defæcation. The bundles of circular fibres which constituted the muscular element of the rectal valve belonged to the same mechanism and had the same function as those which formed the ental sphincter. It was the function of the normal rectal valve to "beneficently" retard the descent of the fæces, and it was obviously true that it might be the special province of the valve in certain other than normal conditions to "maliciously" obstruct the descent of the fæces. His experience convinced him that a perfect knowledge of the rectal valve constituted the key to an understanding of obstipation, rectal stricture, and their sequelæ.

Constipation Considered from the Standpoint of the Proctologist was the title of a paper read at the same meeting by Dr. A. B. Cooke, of Nashville. He defined constipation as a diseased condition of the alimentary canal characterized by a modification of function which resulted in the pathological retention of fæcal matter. He mentioned among the causes those springing from the violation of hygienic laws; defective innervation, expressed either in atonicity of the muscular coat of the intestine or in decreased secretion; sluggishness of bowel function; the habitual use of purgative medicines; mechanical obstruction; and painful affections of the anus. The relations between constipation and diseases of the rectum, he said, were intimate and noteworthy in that either might be the cause or effect, with reference to the other. Rectal reflexes came in for a fair share of consideration. It was the author's conviction that in a large proportion of cases constipation either originated in or was maintained by conditions situated in the distal ten inches of the intestinal tract. If this was true, he said, the notorious inadequacy of ordinary treatment was at once accounted for, and the duty of the proctologist in the premises became obvious.

Rectal Adenomata.—Dr. William M. Beach, of Pittsburgh, presented this subject at the same meeting. He defined an adenoma as an hypertrophy of gland texture. He noted briefly the nature of these growths and the value of the proctoscope in their early diagnosis and treatment. He said there are two principal types of adenomata—the gelatinous, composed of elements of mucous membrane; and the mixed variety, consisting of mucosa and submucous cellular tissue. The adenoma with a long pedicle was benign, while growths with a broad base tended to malignity. By means of the old methods of examining the rectum, he said, it was well-nigh impossible to ascertain the situation of these growths of the upper rectum, but the newer proctology substituted exact methods in the diagnosis and treatment of non-malignant adenomata that were most gratifying to both the patient and the surgeon. A rectal adenoma might be hard or soft and contain the constituent elements of the mucosa and submucosa; these growths were benign or malignant; when benign in their origin, they might become malignant. Early recognition of them was of the first importance.

The Post-operative Treatment of Hæmorrhoids was discussed at the same meeting by Dr. J. R. Pennington, of Chicago. He stated that the success of a rectal operation depended quite as much upon the after-treatment as upon the operation itself. He used a tampon made by taking a piece of five-inch rubber tubing, about four inches and a half long, wrapping it with sterilized gauze until it was as large as desired, and then covered this tent with a special rubber covering. Before introducing the tampon he blew nosophene powder over the field of operation. It was introduced through a bivalve speculum. Among the advantages alleged for the rubber-covered tampon over the gauze dressings were these: It was neater; its removal was painless, as the granulations could not and did not penetrate or adhere to the rubber covering as they did to gauze or wool dressings; the tender granulation sprouts were not broken off during its removal, and hence there was little or no hæmorrhage, so that the wound was left better fortified against septic infection and the healing process was greatly enhanced; and there was practically no pain during defæcation, a point of very great importance.

The New York State Examination.—The Examination Department of the University of the State of New York has favored us with the following statement:

Total number of candidates in the May licensing examination	131
Successful	111
Rejected	20
Percentage of rejections	15.27
Percentage successful	84.73
Total number of honor candidates	10
Highest general average	95.3
Rejections in anatomy	12
Rejections in chemistry	7
Rejections in surgery	3
Rejections in pathology and diagnosis	9
Rejections in physiology and hygiene	3
Rejections in obstetrics	3
Rejections in therapeutics, practice, and materia medica	9
Rejections in one topic	10
Rejections in two topics	3
Rejections in three topics	1
Rejections in four topics	3
Rejections in five topics	3

Original Communications.

REPORT OF THREE CASES OF MULTIPLE PISTOL-SHOT WOUNDS OF THE INTESTINE,

*WITH REMARKS.**

By GEORGE WOOLSEY, M. D.,
SURGEON TO BELLEVUE HOSPITAL;
PROFESSOR OF ANATOMY AND CLINICAL SURGERY IN THE CORNELL UNIVERSITY MEDICAL COLLEGE.

I will briefly give the histories of these three cases on which we may base our remarks as to the general subject of pistol-shot wounds of the stomach and intestine, and the points of special interest suggested by these three cases. They all occurred in my service at Bellevue Hospital:

Case I.—J. B., a man, aged forty-one years, was admitted on the evening of October 4, 1891, very shortly after having been shot at twice with a 38-calibre revolver. There was a wound of entrance in the centre of the left iliac region, and a contusion under the left nipple, due apparently to a bullet striking against some article carried in the pocket. There was but little pain or shock. Operation the same night, about six hours after the accident.

Through a five-inch incision a little to the left of the median line the intestines were removed and examined. Eleven perforating wounds were found in the small intestine and closed by Lembert sutures; the abdominal cavity was well irrigated and the abdominal wound sutured. There was but little blood or fæcal matter in the peritoneal cavity, which was thoroughly washed out. The bullet was not found, though apparently it had taken an oblique course from left to right.

The diagnosis of penetration had been made by careful exploration with probe and finger after slight enlargement of the wound. During the next day the patient's general condition seemed good. After this the temperature steadily rose.

He sank as if from septic poisoning and died on the third day, about fifty-four hours after the accident, and forty-eight hours after the operation. The bowels had not moved nor had there been vomiting since the operation.

Autopsy by Dr. H. P. Loomis showed that the wounds were all in a section of ileum three feet in length. This part was somewhat distended and congested, but there was no evidence of general or progressive peritonitis. The eleven wounds were tightly closed and there were no others.

The bullet was found in the right iliac fossa.

Case II was shown to the New York Surgical Society January 22, 1896, and the report published in the *Annals of Surgery*, April, 1896. I will therefore give the history as briefly as possible.

W. McC., a man, aged twenty-three years, was admitted December 21, 1895, at 10.30 P. M., immediately after being shot twice by a pistol of 32 or 38 calibre, held nearly in front and at close range. Before I saw him and commenced operating, five hours later, he had vomited frequently, had had one movement of the bowels, mostly blood, and had partly rallied from shock. At the time of operation he had great pain and was vomiting frequently. One bullet had passed through the left buttock and the other had entered the abdominal wall midway between the left anterior superior iliac spine and the umbilicus. A probe passed only as far as the muscle layer inward, downward, and backward. An incision in the left semilunar line met the track of the bullet just external to where it pierced the rectus muscle, through which a probe, introduced, showed the course to be more transverse than first supposed. Hence the first superficial incision was closed and a median incision was made from the umbilicus to the symphysis, to reach both sides of the abdomen. A moderate quantity of blood and clots and a small amount of fæcal matter were found in the peritoneal cavity. The peritonæum was quite congested, and some serum was mixed with the blood. The jejunum and ileum, which were remarkably empty, were examined from end to end and presented sixteen perforations, most of them in the lower ileum, but some in the jejunum. Twelve perforations were closed by Lembert sutures, but, as four in the lower ileum were within two inches of one another, three inches of the intestine were excised and an end-to-end anastomosis was done with a Murphy button, to avoid stenosis or kinking and to save time.

Perforations were confined to the small intestine. The bullet was not found, and no time was wasted in searching for it. Throughout the operation large quantities of hot, sterile, normal salt solution were used for cleansing, to keep the bowels moist and warm, and to combat shock. The wound was closed except for a glass drainage tube in the lower angle extending into the pelvis. The patient made an excellent recovery; the Murphy button was passed on the ninth day, and the wound healed *per primam*, except for the point where the tube remained three or four days. The bowels moved first on the third day, and a movement of the bowels tended to cure the occasional attacks of pain or vomiting he had.

Case III.—A. K., a lad, aged nineteen years, was admitted December 5, 1898, soon after being shot in the abdomen by a 32-calibre pistol. He had severe pain and frequent vomiting, but no vomiting of blood. The wound of entrance was about midway between the axillary and scapular lines, and about an inch and a half above the upper border of the iliac crest. The bullet could be felt beneath the skin an inch to the left of the median line and just below the free border of the ribs. An opening was made here, the bullet removed, and the track explored, showing it to be a penetrating wound, and also a perforating one, on account of the presence of fæcal matter. Hence I was called and operated four or five hours after the accident. A six- or seven-inch incision from a little below the ensiform cartilage was made through the right rectus, an inch to an inch and a half from the median line, separating the fibres of the muscle. This incision was chosen because the course of the bullet indicated that most of the injury was on the right side, and the event proved the wisdom of the course, as the ascending colon was more easily reached. There were two wounds of the ascending colon, two of the transverse colon, and two of the stomach. The wounds of the stomach were very close to the great curvature, one on the anterior and one on the posterior surface. The latter, and one of the wounds on the transverse colon, opened into the lesser peritoneal sac and were found and sutured through small openings in the gastrocolic ligament of the great omentum. All the wounds were sutured by Lembert sutures. The small intestine was examined from the duodeno-jejunal to the ilio-colic junction, but no wounds were found.

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* Read before the Roosevelt Hospital Alumni Association, February 17, 1899.

In accordance with the suggestion in the report of the second case of the use of intestinal disinfectants, an attempt was made to introduce powdered salol into the intestine through the wounds, but it was found difficult and scarcely feasible to introduce it into the moist collapsed intestine. Large quantities of hot normal saline solution were used to cleanse the cavity of the small amount of blood and stomach and intestinal contents found therein. Gauze drains were introduced, as a matter of precaution, down to the foramen of Winslow, as the lesser peritoneal sac could not be so easily cleansed.

Interrupted silkworm-gut sutures, including all layers, continuous catgut suture of the peritonæum, and silk sutures of the skin were employed to close the wound.

During the next three nights the patient, suffering from thirst and a moderate degree of delirium tremens, got out of bed from one to three or four times a night, in the absence of the nurse, to search for a drink. Hence it was not strange, on dressing the wound on the fourth day, to find that the sutures had torn through and the wound was gaping in the middle, where the intestine was exposed, the upper and lower angles remaining closed. The delirium lasted about a week; otherwise recovery was uneventful, though there was some rise of temperature for the first few days, but no symptoms of peritonitis. No food by stomach for five or six days, rectal feeding being employed.

Twenty-four days after the first operation an operation was done to cure the hernia, opening the peritoneal cavity by prolonging the incision above and below. The intestines were found very adherent to the margins of the opening and were separated with some difficulty. The margins of the opening were pared to expose the rectus and the wound sutured as before, except that three or four stout silk sutures were required to relax the tension, and the separate skin sutures were omitted. In spite of some suppuration along the sutures, especially the tension sutures, the wound healed well and gave a firm cicatrix, though between the latter and the median line the muscle fibres seem to have atrophied, from the section of the fine nerve twigs supplying them. He was advised to wear an abdominal bandage, and was discharged cured February 9, 1899.

The following are among the points of interest suggested by these three cases:

In Case I death was evidently due to sepsis and not to peritonitis, for the symptoms were altogether those of the former and not of the latter. It was not one of those cases of general septic peritonitis in which the septic symptoms overshadow the peritonitic, for on autopsy such a peritonitis was not present. There was no peritonitis, unless the congestion and distention of the short length of ileum containing the eleven perforations are so called. It might have been better to resect these three feet of ileum, but it was before the days of the Murphy button, and resection of three feet of gut followed by enterorrhaphy seemed a formidable operation. But where did the absorption of septic matter occur? Apparently it was a case of auto-septicæmia from the putrid and toxic contents of this paretic area of the ileum, the toxines being absorbed by the wall of the intestine in general, and perhaps the raw inverted edges of the wounds in particular.

This suggested the giving of salol as an intestinal disinfectant in Cases II and III, and the attempt to introduce it into the gut through the wounds in Case III. The latter method of application is not practicable unless the salol is made into a kind of pill mass, and the use of an intestinal disinfectant may be merely theoretical, though apparently rational. As to whether and how far it may contribute to a favorable result, a larger experience would be required upon which to base an opinion. But if there is such a thing as auto-septicæmia, intestinal disinfectants would suggest themselves as a rational treatment where the physical condition of the bowels precluded early catharsis.

In Cases II and III the bowels were remarkably empty. This may have contributed to the favorable result (1) by affording less material for intestinal putrefactive changes, and consequently less toxic matter for absorption, and (2) by reducing to a minimum the amount of fæcal extravasation and thus rendering the danger of peritonitis less.

The large amounts of hot, sterile, normal salt solution used in Cases II and III had a twofold value—in flushing and cleansing the peritoneal cavity and in diminishing shock.

I have not found that evisceration, if gently done, added to the shock, and it enables one to cleanse the surface of the bowel and mesentery more thoroughly and is essential to the examination of the jejunum and ileum from end to end, so that no perforation may escape notice and thus entail a fatal result.

Where a short length of intestine is riddled with bullet holes it is generally recognized to be better to resect the part and make an end-to-end anastomosis with a Murphy button. This was done in Case II, where there were four holes in two inches of gut, and was found to save time as well as to avoid stenosis or kinking of the intestine. It might even have been advisable in Case I, but, as stated above, it was before the day of the Murphy button.

As to the question of *diagnosis*, the only symptoms present in all cases are pallor and vomiting, which may be present in any abdominal injury. The escape of gas, fæces, or a considerable quantity of blood, indicates a perforating wound, and the latter implies a penetrating one. Blood in the stools or vomited matter is a valuable sign. I can not agree with a recent writer,* who says that when such signs are present it is too late to operate. Blood in the stools was present in Case II, and not a few such cases, resulting in recovery, are on record.

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* C. R. Parke. *New York Medical Journal*, 1898, vol. lxvii, p. 88.

Where any doubt exists, the enlargement and exploration of the wound seem to me to be the only satisfactory course. This can be done under cocaine anæsthesia. In Case III it was applied to the wound of exit after extracting the bullet from beneath the skin; usually it is applied to the wound of entrance.

An important question to be settled is whether the stomach or intestines are perforated. It is possible to have a penetrating wound in which the bullet passes among but does not wound the intestines. Stimson has seen two such cases; in the War of the Rebellion nine such cases are recorded; and Oliver * reports three cases among fifty-eight. But in ninety-seven or ninety-eight per cent. of the cases, and probably more, a penetrating bullet wound is also perforating. The diagnosis of the latter condition should be made by the laparotomy undertaken for its treatment.

Senn has proposed the insufflation of hydrogen gas into the intestines by way of the rectum or stomach as an aid to diagnosis. This may be used in three ways: (1) After laparotomy, to determine the presence and situation of the perforations, so as to avoid the necessity for evisceration; (2) to determine the fact of perforation when penetration is proved and we have a more or less free opening into the peritoneal cavity; (3) to determine the presence of penetration as well as perforation. In each case the method seems to me objectionable because infection would inevitably be carried with the gas forced from within the intestine through an opening in its wall.

The amount of fæcal extravasation in most cases, and in those detailed above, is not as great as one would suppose, but is ample to infect the peritonæum. In none of Oliver's fifty-eight cases, mentioned above, was there an appreciable amount of fæcal extravasation, and, according to Martin and Hare, it only occurs in about twelve per cent. of cases. Though but little of the intestinal contents might by forced out by the gas, it is most undesirable to have any addition of infectious matter in the peritoneal cavity, even if it is soon to be removed.

The method is open to the most objection in (3), to the least in (1), in which any extravasation could be at once removed. When used in this way, it has the advantage of preventing the overlooking of any perforation. In short, as compared with gentle evisceration, I think it has no advantages in safety to the patient or security against overlooking perforations. If it were not for the fact that hydrogen gas is said to be rapidly absorbed, another objection to its use would be the distention of the bowel and the consequent difficulty in closing the abdominal wound, if not the more serious one of intestinal paresis from continued distention.

As to *prognosis*, many factors, liable to great variation, affect the result. The greater the number and the larger the size of the wounds, the worse the prognosis. The number is apt to be greater when the bullet passes in an oblique or transverse than in an antero-posterior direction. In all three of my cases the track of the bullet was oblique, but there was a large individual variation in the number of wounds.

Though in general the size of the opening varies directly with that of the bullet, there is a wide range here, for the bullet makes a much larger opening if, in its course, it passes through the side of a coil of intestine instead of through the middle, and in the former case the opening of entrance and that of exit may even be continuous.

The modern small-calibre, high-velocity bullets may produce various results in soft tissues depending upon whether they are soft-tipped or metal-clad. In the former case they tear large holes; in the latter, the wounds are small, clean, and like incised wounds.

Furthermore, the prognosis is affected by the condition of the stomach and bowels as to fullness or emptiness, for when they are empty fæcal extravasation is less likely. This was seen in Cases II and III, but especially in Case II.

The part of the bowel wounded affects the prognosis, for a wound of the large intestine with its more solid contents is less likely to be followed by fæcal extravasation than one of the small intestine. The stomach, although its contents may be very fluid, has thicker walls, so that the opening is more likely to be plugged by the protrusion into it of the mucous membrane.

The above circumstances affect prognosis by increasing or decreasing the amount of extravasation of septic matter and thus the degree of peritoneal infection. This is also influenced by the time between the injury and the operation. Thus, in a hundred and fifty-four laparotomies * for gunshot wounds the mortality varied from 52.7 per cent. when the operation was done five hours after the accident to 78.2 per cent. when done after twenty hours. After twelve hours the probabilities are strongly against recovery, and after twenty-four hours operation is practically useless. Morton † found a total mortality of 58.9 per cent. in a series of two hundred and thirty-four cases operated on in Europe and America. Statistics are liable to inaccuracy, however, owing to the successful cases being more generally reported than the unsuccessful ones. We may say, however, that when no operation is done in cases of bullet wound believed to be penetrating, the mortality has been fully ninety per cent. ‡

It is a curious fact in this connection that among the American forces in the Santiago campaign in the recent war it is said that no patient with a penetrating gunshot wound of the abdomen operated upon recovered, and that the only ones that recovered were not operated upon. But, in the first place, the number of those who recovered without operation, as well as of those unsuccessfully operated upon, was small; and, secondly, the facilities for operation were not of the best. Fuller details may explain this anomalous fact, though it may be said that more may recover without operation from penetrating wounds of the abdomen made by the modern jacketed bullet of small calibre and high velocity than would formerly have recovered from wounds made by softer bullets of large calibre. Hence better results may be expected from conservative military surgery than formerly.

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* *Cincinnati Lancet-Clinic*, 1898, vol. xl, p. 463.

* Sajous's *Cyclopædia*, 1898 (Abdomen, Wounds of).

† *Abdominal Section for Traumatism.*

‡ See *Wounds in War*, W. F. Stevenson, London, 1897.

But in prognosis we must not forget the personal equation. Different individuals react differently to similar peritoneal irritation. The proverb, "one man's meat is another man's poison," seems to apply here. We know that there is a great difference in this respect among various species of animals. Thus, a severe injury to the peritonæum of a cow is without gravity, while a horse is very susceptible to such injuries. Susceptibility seems to vary greatly among human beings and helps, perhaps, to account for some remarkable successes and for otherwise unaccountable failures. Case I was that of a man of fine physique and good habits; Cases II and III were the opposite. I do not mean to imply that differences in susceptibility are sufficient to account for differences in result, but that they may affect it slightly.

Hæmorrhage from the wound of a solid viscus, or of a blood-vessel, even if it is small, renders the prognosis doubtful by increasing the shock.

It is difficult to give any definite figures of value in a given case as to the mortality of bullet wounds of the abdomen in general or of the intestines in particular, for there are so many variable factors. I have already given some general percentages above. Whereas before antiseptic surgery the mortality of perforating bullet wounds of the intestine was ninety per cent., it is said to have decreased to forty-three per cent. in cases operated on in the first twelve hours.* Considering the large total of thirty-three perforations in my three cases taken together, the mortality of only thirty-three per cent. seems a favorable one.

As to *treatment*, the necessity of operation is generally admitted: First, an enlargement and exploration of the wound to determine whether it is penetrating; then a laparotomy in such a position as to reach all parts of the peritoneal cavity, and especially those that lie in the track apparently taken by the bullet. The incision, as a rule, is best made in the middle line, through the rectus, an inch or so to one side of or through the semilunar line. If the diagnosis of perforation has not been made when the diagnosis of penetration is established the incision may be of moderate length at first; but as soon as the fact of perforation is known it is a mistake to confine ourselves to a small incision. It should be at least five or six inches long, for we can then treat the conditions present much more satisfactorily. The operation should also be done as soon as possible to give the best chance of success, but we may here be met by the question of shock as a contraindication to operation. If, however, the shock is due simply to the injury—and it may be severe after slight injuries, and *vice versa*—recovery is not long delayed under proper treatment. If the shock is due to hæmorrhage, it is progressive and not diminishing, and we can not operate too soon.

On opening the abdomen in any case, the first thing to do is to check hæmorrhage if it exists. It is scarcely necessary to say that perforations of the intestine should be closed by Lembert sutures. Interrupted sutures are more secure, but take more time, which is an important factor if the wounds are multiple.

Two rows of continuous suture are safer and more rapidly applied than a single row of interrupted sutures.

The liberal use of hot normal salt solution (1) to cleanse the surface after visible particles have been removed with a gauze pad, (2) to keep the exposed surfaces warm and moist, and (3) to combat shock is, in my judgment, of the greatest importance.

I do not believe in irrigation at all in a local process like a localized appendicitis, but the case is different here. We can not tell how far the infection has spread, for it is not coextensive with the spread of the visible extravasated particles, which may be altogether wanting when the invisible infection has spread very generally.

It is safer, therefore, to cleanse all parts thoroughly, and the other effects of the solution are also not to be lost sight of. I will only add that upon the question of drainage it is difficult to lay down hard-and-fast rules. If we are uncertain of the perfect closure of any perforation; if free serous exudation has begun from peritonitic irritation, due to infectious matter, or if more marked signs of peritonitis exist, most of us would prefer to drain. The ideal course is that without drainage, and there is a tendency in that direction in many abdominal operations; but in cases of perforating pistol-shot wounds safety is the paramount consideration.

117 EAST THIRTY-SIXTH STREET.

Urosin in the Uric-acid Diathesis.—Urosin is the name given by Zimmer & Co., quinine manufacturers, of Frankfort on the Main (*Berliner klinische Wochenschrift; Centralblatt für die gesammte Therapie*, May), to a mixture prepared by them in the form of tablets each containing 7½ grains of cinchonic acid, ¾ of a grain of lithium citrate, and 4½ grains of sugar. Weiss recommends from six to ten of these tablets to be taken daily in the treatment of the uric-acid diathesis.

Domestic Medicine.—A female domestic who had been summoned to her father's bedside wrote to her employer, "My father's complaint is the bright disease of the kidney and the balance of his heart gave way."

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* See Sajous's *Cyclopædia*, etc., 1898 (Abdomen, Wounds of).

A CLINICAL STUDY OF TWENTY-FOUR CASES OF
PARALYSIS AGITANS,
WITH REMARKS ON THE TREATMENT OF THE DISEASE.

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Paralysis agitans, or creeping palsy, has had but little added to its clinical delineation since the original description by James Parkinson in 1823. Despite the many careful investigations of the nervous system that have been made by the aid of modern methods, the nature of the disease is still unknown. Although classified as a functional nervous disease, pathological changes are almost invariably found in the central nervous system after death, especially if the disease has existed for a long time. The object of the present study is not to throw light on the pathogeny of paralysis agitans, but to consider its attributed and apparent causes, to estimate its relative frequency, to determine the initial symptoms and mode of onset, and to learn the factors that influence the course of the disease. The cases are taken from dispensary, hospital, and private practice, in about equal proportion. In order to estimate the relative frequency of paralysis agitans, we have taken the statistics of the clinic for several successive months, as it is impossible to approximate the number of nervous diseases that have been seen during the encounter of these twenty-four cases of paralysis agitans. In five hundred and thirty-six successive patients in the clinic, there were seven undoubted cases of paralysis agitans, and one doubtful case, making a percentage of 1.30. This is much higher than that given by many writers, such as Berger, who found a percentage of 0.62 in six thousand cases, although our figures are practically the same as those given by Charcot. The fact that the clinic is made up in considerable measure of patients sent there by physicians for consultation and advice may explain the relatively large percentage in our statistics. It is easy to understand that such statistics, therefore, have a restricted value in showing the frequency of paralysis agitans relative to all nervous diseases.

The accompanying table shows the relationship of age, nationality, and heredity to the occurrence of the disease:

Nationality.

Nation.	Males.	Females.
United States	2	2
Holland	1	
England	1	
Germany	2	2
Ireland	9	2
Austria	1	
Russia	2	
Total	18	6

Age.

Decades.	Males.	Females.
Thirty to forty years	1	
Forty to fifty years	6	1
Fifty to sixty years	5	2
Sixty to seventy years	4	3
Seventy to eighty years	2	
Total	18	6

Heredity.

	Males.	Females.
Direct heredity	3	1
Indirect heredity	3	1
No heredity	8	3
Unknown	4	1
Total	18	6

The most striking feature in reference to nationality is the remarkable predominance of the Irish race. Very nearly one half of all the cases were of this people. When we consider that the constitution of the clinic is not conspicuously Irish, it will readily be seen that this preponderance is not to be explained by accident. It may be that the Irish, being a very emotional race, are more vulnerable to the attributed exciting causes of paralysis agitans: shock, anxiety, worry, depression, etc. It is not improbable, however, that it is in part explainable by the entirely different mode of life which the people of this race have when they take up their abode in this country, as no one has pointed out that the Irish are particularly afflicted with paralysis agitans at home. In other words, it would seem to be as much environmental as inherent. Another peculiar feature of the statistics concerning the nationality of the patients is the relative infrequency of the disease in Irish women, contrasted with the women of other nationalities. For instance, the Americans and Germans furnish an equal number of men and women. Many German and French writers maintain that there is very little relationship of sex to the occurrence of paralysis agitans. It will be seen that our statistics show that the occurrence of the disease is three men to one woman. Gowers gives the proportion in his experience as five men to three women.

Our statistics regarding the age at which the disease is most apt to show itself are in accord with those of most writers on the subject. The disease occurs most often in the fifth decade, and gradually diminishes until the eighth decade. Unlike many other writers, we have encountered two typical cases after the seventieth year. No patient under thirty years of age has been under treatment during the period of personal direction of the clinic, although previous to that time a typical case of paralysis agitans in a boy twenty-two years of age was under observation for a prolonged time. This case is not included in the statistics.

A fact brought out by our study that is not in entire accord with the statements of other writers on this point is the influence of heredity. In no less than four cases was there a straightforward history of direct inheritance. In one case the father had paralysis agitans, while the mother and a maternal uncle died with some form of paralysis. In a second case the mother had a disease similar to that of the patient, the shaking being particularly marked when she was excited. In a third case, the father had an exactly similar disease for the last eight years of his life, and it is thought a paternal uncle was similarly afflicted; while in a fourth case, a woman, the father and a paternal aunt had exactly the same disease. Naturally, this information was obtained only from the patient or the descendants of the patients, and is therefore liable to serious errors. A very careful inquiry was made in every case on this point, with the above result, which is so at variance with the usual teaching on this subject that we are ourselves loath to accept it as absolute fact. A history of indirect heredity—that is, of manifestations of nervous or mental disease in the family—was found in sixteen per cent. of the cases. Upward of fifty per cent. of the cases gave neither direct nor indirect neuropathic history.

In regard to occupation, the statistics show that the patients were very evenly distributed among upholsterers, plasterers, gardeners, saddlers, engineers, printers, laborers, sailors, mill hands, promoters, journalists, clerks, merchants, and fancy workers. Neither the mentally harassed nor the physically overworked have a special liability to the occurrence of the disease. Workers out of doors develop the disease as frequently as indoor workers. The statistics further show that the disease is as likely to occur in one grade of society as in another. Of the six women, four were married, one was a widow, and one single; while of the eighteen men, sixteen were or had been married, and two were single.

Inquiry to determine the alleged causes of the disease did not result in obtaining satisfactory information. Only about thirty-five per cent. of all the patients were able to inform us of a distinct cause. The attributable causes were: 1. Shock attending the death of a beloved daughter. 2. Excessive and prolonged mental strain, incident to supporting a family. 3. Family trouble. 4. Constant exposure and becoming wet, incurred in occupation. 5. Contact of the hand with cold stone in winter, while employed in polishing marble. 6. An attack of grippe. 7. The sudden appearance of a strange black cat near her bed. 8. The discovery that an unmarried daughter was pregnant. 9. Being knocked down by a vehicle, but without consequent physical injury. 10. The discovery that all his savings had been lost. Thus it will be seen that the alleged causes were profoundly those that may be classified under the head of psychical or emotional trauma. Our experience in this respect corresponds with that of others, although, perhaps, the proportion in which an attributed cause was elicitable was somewhat greater than in those of other writers. It has frequently been stated that acute and chronic diseases of various kinds have a predisposing influence to the occurrence of paralysis agitans. This statement is corroborated to a slight extent by our study. Of the six women, four denied any previous disease. One had had a fungoid growth removed from the uterus shortly before the occurrence of paralysis agitans; one had had chronic diarrhœa. A third patient had had yellow fever a great many years before the occurrence of the disease for which she came under our observation. Of the men, one gave a history of a blow on the head, after which he had been delirious for three months; but this had occurred so long before the manifestations of Parkinson's disease that it could not possibly have any influence. Another had had an attack of acute articular rheumatism before the manifestations of the disease; while a third, in whom the symptoms seemed to follow an attack of grippe, has already been mentioned. Two of the men had had yellow fever, eighteen years and forty years, respectively, previous to the manifestations of paralysis agitans. Only two of the twenty-four patients were hard drinkers or smokers, and in none was there a history of syphilis. As a matter of fact, the most striking feature of the personal history of all these patients was that they had lived temperate, wholesome lives, apparently devoid of undue strife or any uncommon burden. In a few cases the patients alleged that the onset of the disease was coincident with some annoying or exciting experience. For instance, one man was quite positive that the disease occurred immediately after leaving the witness box, where he had been subjected to a harassing cross-examination. Another patient dated the beginning of the tremor from the moment when he heard that all his savings had been lost, owing to the failure of a bank. But in both cases close inquiry revealed that muscular rigidity had antedated these experiences by a number of months. A third patient averred that the tremor developed while he was lying in bed convalescing from an operation for inguinal hernia, but investigation showed that the surgeon had diagnosticated paralysis agitans on the man's admission to the hospital.

This brief review of the ætiology of paralysis agitans shows that the most important factors are age, sex, nationality, morality, violent emotions, especially depression, direct and indirect heredity, and infectious diseases. Apart from the peculiarities of our own statistics relative to these factors, and which have already been mentioned, the only point worthy of note is that traumatism was not an alleged or exciting cause in a single instance.

Symptoms.—The disease usually develops in a most insidious way, although it may come on with considerable abruptness. The first complaint may be of profound and unattributable weariness, usually of one upper extremity. This may or may not be associated with trembling of the extremity, but the latter is sure to follow. With the feeling of weight, fatigue, and unwieldiness of the extremity, a peculiar form of muscular rigidity develops. This rigidity is more apparent to the patient than it is to the physician on passive movement. Although this rigidity develops first in one extremity, it soon passes insidiously to the others, and eventually is manifest in every part of the body. It is responsible for the peculiar, immobile, expressionless countenance of the patient's face, for the bowed condition of his body, and for the slight flexion in all the articulations of the long bone. Moreover, the contraction which is at the bottom of the spasticity conditions the patient's gait, with its short, shuffling steps and tendency to run, called festination; inclination to fall forward (propulsion), as well as the tendency to fall backward (retropulsion), especially if the patient starts to move in that direction, and the inclination to fall sidewise (lateropulsion). It is responsible likewise for the high-pitched, unmodulated, monotonous vocalization and the fixed manner of speech. The tremor, which is considered an essential feature of the disease, may never develop; but usually it shows itself a few weeks or months after the rigidity and fatigue in one hand, oftenest in the left. Occasionally it precedes the occurrence of rigidity of the muscles. It gradually creeps up to the shoulder, accompanied by a peculiar subjective sensation of unrest, and passes across to manifest itself in the upper extremity of the opposite side. Later it shows itself in the lower extremities, and finally, as a rule (although this is contrary to the usual statement), in the cephalic extremity. It has three characteristics: First, its location, usually in the hands, which are already brought into a pencil-holding position by the muscular rigidity. It oftentimes causes a forward and backward movement of the thumb and the index finger comparable to those of rolling a pill, often called a pill-rolling movement. Second, its rapidity, from five to six a second, therefore standing midway between the slow tremors and the rapid or fine tremors. Third, it continues while the patient and his extremities are supported and at rest. Although it usually lessens in intensity when the patient attempts and performs voluntary movement, it oftentimes does not do so, and may indeed become slightly exaggerated. Occasionally it stops without apparent cause, but reappears without attributable exciting factors. It is increased by all forms of psychical excitation and by physical indulgence. It may involve all the extremities, and usually does so before the patient passes into the terminal stage, wherein the rigidity and immobility again have sway, as they often do in the beginning. In addition to these symptoms, which are looked upon as the leading features, there are many associated phenomena, all of them apparently perversions of the sympathetic nervous system. There are subjective sensations of heat, accompanied by local flushings, especially of the face and chest, by local and general elevation of temperature; attacks of sialorrhœa, diarrhœa, and outbreaks of sweat, which may or may not coincide with the flushings just spoken of; with sluggishness of the pupils on exposure to light; and profound amyosthænia, both paroxysmal and continuous. The sensory sphere is usually entirely spared. The cutaneous and deep-seated reflexes are normal, unless the phenomena of the latter are prevented by the rigidity. The bowels and the bladder preserve their function, save in the manifestation of hurried action of the sphincters, and the digestive organs remain in fairly good working order. The patient is non-emotional, and exhibits a degree of contentment which is strikingly at variance with that which one would expect to find in a normal man or woman who had been deprived of their capacity to enjoy life or earn their daily bread, and who have probably been apprised of the eventual outcome of their disease. Nevertheless, there is no dementia; at least, not until the disease is nearly at its end. Aside from the subjective sensations of fatigue, oppressive warmth, fullness in the head, and difficulty of prehension and locomotion, the patient's most frequent complaint is of sleeplessness and inability to get refreshing rest.

The course of the disease is uniformly progressive. In this it is strikingly in contrast with a disease which tradition maintained, and some still teach is frequently mistaken for paralysis agitans—viz., disseminated insular sclerosis, which is almost invariably progressive and retrogressive. The disease lasts from five to thirty years. As a rule, the patients pass into a bedridden and æsthenic condition, which makes different parts of their body vulnerable to infections, such as tuberculosis and pneumonia, and they die from these or other intercurrent disease.

Despite the fact that the symptoms of paralysis agitans are very characteristic and constant in their occurrence, the early clinical features of the disease are really quite variable. For instance, the time that elapses between the occurrence of a symptom that will be sufficient to direct the physician's attention to the real nature of the disease and the recognition of the serious nature of the complaint by the patient, is very variable. This is well illustrated by a few examples. One man observed that the left index finger was tremulous when he walked in the street. Eight years later he complained of cramps in the calf and instep of the left foot. Six months later still there was very characteristic agitation of the entire left upper extremity; while in the course of two years from this time all the extremities were affected, and the patient was in an advanced stage of the disease. The facies, the attitude, the tendency to propulsion, the speech, the drooling, etc., were all most typical of Parkinson's disease. In this instance the time between the initial symptom and the occurrence of characteristic symptoms was extremely protracted. Another point worthy of note is that the tremulousness preceded the muscular rigidity, this formula being usually reversed. Another patient came to the clinic on account of peculiar sensations in the head—a fullness and feeling of distention. He also complained of heaviness and weakness of the extremities. The slight, rather jerky tremor which was noted in the right hand he made light of, as it did not bother him. The facies, speech, vasomotor disturbances, and slight rigidity of the extremities were sufficient to warrant the diagnosis. Twelve months later we saw him again, when he had typical tremor and rigidity of all four extremities. Another patient avers that the initial symptom was a tendency to stagger, as if he was drunk, which preceded by six months an agitation of the right hand first noticed on writing. An interesting feature of this case was that he was one of the very few that showed any considerable mental depression. Another patient complained of stiffness in all the joints for upward of four years before any tremor showed itself. One woman assured us that the initial symptom in her case was pain in the right shoulder, which was followed in five months with pain in the right hand. Before the year was passed the right hand was tremulous in a characteristic fashion. Some time after that she complained of pain in the left shoulder, and later in the left hand. Then this extremity became tremulous. Thus the pain and tremor extended to involve the four extremities. Another woman said that she had had pain in the right thumb almost steadily for three years without any other symptom save a variable amount of acroparæsthesia. At the end of this time tremor began in the index finger and thumb of the right hand, the movements being of the "pill-rolling" character. Another woman says that the initial symptom was inability to move around as agilely as formerly, especially in the morning. After this condition had lasted for a year or more she remarked a tremor in the right hand. Another woman states that the early symptoms in her case were referable entirely to the stomach, a sensation of fullness and agitation in the stomach, associated with flushings of the face and attacks of unaccountable perspiration. Two of the male patients stated that both hands began to shake simultaneously, and that this agitation was the initial symptom. In all the other cases the tremor was unilateral in its onset.

Recently,* Dr. Purves Stewart has described what he believes to be a new and early symptom in paralysis agitans. It consists in a peculiar affection of the toes, which causes them to become spontaneously strongly flexed and curled up under the sole in a cramplike fashion when the patient is walking. We have made careful inquiry and examination in ten of our twenty-four patients now under observation, and have found nothing approximating this, save perhaps in one case. In our experience it is neither an early symptom nor a symptom at all, except as cramps in various parts of the body are of occasional occurrence. Two of our patients complained of cramp in the foot, which, however, was as liable to occur while the patient was lying down as when moving about. Three patients suffered considerably from cramps in the legs. Considering, therefore, that involuntary, painful contractions of various muscles were noted in upward of twenty-five per cent. of the cases, it would seem more legitimate to call this a "new symptom in paralysis agitans" than "curling" of the toes.

Our statistics show that the type of the disease was preponderantly diplegic, which, it may be said in passing, is at variance with the statement of most writers, who say that the symptoms of the disease in most cases are hemiplegic in distribution. Thirteen of the cases were diplegic, three hemiplegic, and two tetraplegic. In three of the remaining cases the symptoms were more pronounced on the left side than on the right. This, however, does not place them in the hemiplegic category. Only two of the cases were of the monoplegic type. In one case the lower jaw was distinctly affected. Of the twenty-four cases, one only was devoid of tremor. This was a most typical case of Parkinson's disease in a laborer sixty-one years of age. At the present writing his disease has lasted upward of five years, and there is no evidence of tremor. No general statement can be made concerning the earliest symptom in every case of paralysis agitans. As we have pointed out, this is variable with each case. Although tremulousness is the symptom for which the patient first seeks relief, careful inquiry will usually show that rigidity, amyosthenia, and diminished agility have antedated the tremor for a longer or shorter time.

Study of our cases relative to the nature and the rhythm of the tremor goes to corroborate the customary teaching. The rate was in all cases from three to six per second. The amplitude of the tremor increased with the progress of the disease. In three cases the tremor was distinctly intentional—that is, it was increased by purposeful movements. In some advanced stages it was noted that voluntary action had decidedly a quieting influence upon the tremor. In nearly every case the tremor was increased by excitement, reproof, mental agitation, etc. In two cases only was it noted that physical agitation had a soothing influence upon the tremor. Many German writers state that the head very rarely participates in the tremor, while Charcot taught that this was the exception, not the rule. This was inquired into in all of our cases, and in five there was distinct tremor of the cephalic extremity.

As to the influence of sleep, in nine cases of which definite information could be obtained, the tremor always stopped during sleep. One man was very positive that toward morning he was awakened by a spontaneous fit of shaking.

In eleven cases the state of muscular tonicity was measured with Dr. Muskens's tonometer, some of them repeatedly. Without entering into details of this method here, it can be stated that in three cases of the hemiplegic type in which there was no tremor nor stiffness of the opposite leg, the tonometer showed a distinct increase of tonicity. In fact, in only two cases was there found normal tonicity of the legs. It may therefore be concluded that increased tonicity is a very early symptom, and probably always precedes the tremor and rigidity.

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* *Lancet*, November 12, 1898.

The respiration was studied in eleven cases. In four cases it was regular and deep, without particular change. In four cases it was superficial and of increased frequency, twenty-one to twenty-four a minute. In three of these last cases the expiration was irregular and jerky, while the inspiration was regular and harmonious. In one case it was distinctly noted that the jerkiness of the expiration coincided with the tremulous movement of the arm, but in the other two cases this was not so.

In fifteen cases special inquiry was made concerning the existence of propulsion, retropulsion, and lateropulsion. In seven cases all knowledge of its existence was absolutely denied. In five of the remaining eight cases the patients complained of a tendency to fall forward. In four patients there was at the same time some retropulsion and lateropulsion. In two patients of the hemiplegic type lateropulsion was present, the tendency being to fall toward the diseased side.

In sixteen cases inquiry was made concerning the state of the stomach and bowels. Eight patients complained of obstinate constipation, one patient had chronic diarrhœa, another had occasional attacks of diarrhœa, while the remaining seven made no complaint of their gastro-intestinal functions.

Abnormal heat sensations were complained of in five cases out of fifteen, in which it was noted that inquiry had been made in regard to this condition. The hot flashes were usually of the face, but not infrequently also manifest in the side showing the tremor. In four cases perspiration was a very disagreeable symptom. As a rule, it occurred rather late in the disease. In one instance alone was it an initial symptom. Drooling was a very distressing symptom in two cases.

The mental condition of the patients was noted in nineteen cases. Eleven were cheerful, hopeful, of good disposition, and easy to get along with. This, taken in connection with the fact that some of them were inmates of a charity hospital whose environment is not particularly contributable to the mildest degree of euphoria, means a great deal. In none of our patients was there any perceptible degree of dementia. Four of the patients were at times considerably depressed; but of these, one was trying to carry on a business, and another was subjected to considerable harassment in a law court.

Treatment.—Unfortunately, no medicament has yet been discovered that has any influence in shaping the course or changing the outcome of this disease. Beginners in the art of therapy should keep this in mind, and thus spare themselves the trouble of attempting a cure by any of the drugs—and their name is legion—that have been recommended during the last half century. Energy of this kind and zeal for experimentation may be legitimately expended, perhaps, in trials with new drugs and other health-restoring measures. But it should not be forgotten that one is not always justified in elevating the hopes of the patient for recovery so high or so often that when the promises are not fulfilled their confidence is so completely shattered that only harm results. Despite this depressing estimate of the value of drug medication in the treatment of paralysis agitans, much can be done to alleviate the symptoms, to prolong the patient's life, and to make him more comfortable. As in all other nervous diseases, the dietetic and disciplinary treatment are of the greatest importance. Their value is very conspicuously seen in patients who early in the course of the disease are obliged to seek the shelter of a hospital. Although they are apparently and really not very ill, as wage earners they are incapacitated. The regular mode of life, and all that is implied by hospitalization, is conducive to avoidance of wear and tear, and such patients continue year after year without any material change except slight increase of rigidity, tremor, and the other cardinal symptoms. The first indication, then, is for the arrangement of an uneventful life, free from care, strife, excitement, and sordidity, in a congenial environment and healthful climate. As a rule, a cool climate is far more grateful to these patients than a hot one. Residence in the country or in the suburbs, where a maximum of fresh air, sunlight, and sleep are to be had, with a minimum of demand on the mind and the body, meets the requirements, providing the vital force of the patient is not put to a severe test in withstanding extremes of temperature.

The diet should be of a simple, nourishing, strengthening kind, and close attention must be given to the functions of digestion and of absorption, so that the bodily weight may be kept at the level which was normal in health. The comfort of the patient can be materially added to by regulation of the bowels and other eliminative avenues. It is absolutely necessary that the patient has the personal care of an attendant or one of the family. Disastrous accidents have not infrequently followed neglect of this precaution. The customary measures for the maintenance of general muscular tone and nutrition, so serviceable in many functional and organic nervous diseases, such as the application of water and electricity, the use of massage and gymnastics, are not so appropriate in this disease as they are in many others. Nevertheless, the use of lukewarm baths, of from twenty minutes to half an hour's duration, are oftentimes very soothing to the patient, and have a tendency to make the muscular rigidity less dominant. Moreover, they contribute to a moderate feeling of well-being, and assist toward the realization of refreshing rest for which the patient generally clamors. In patients under forty years of age, the application of water from 90° to 75° F. from the hand of an attendant, followed and accompanied by friction, is sometimes serviceable in combating the distressing attacks of local and general heat of which the patient complains. This measure can be utilized daily with patients who react well after it. Reaction may be facilitated by having the patient wrapped in a hot blanket previous to the ablution, by having him stand in hot water during the bath, and by light massage and external heat following it. Massage, applied as stroking and light kneading, fulfills practically the same purpose and is utilized for the same ends. Papotement or percussion should be avoided. It tends to lessen the spasticity, to improve the general nutrition, and to increase the patient's capacity for rest. Swedish gymnastics has been warmly recommended by some writers, but we have never seen anything but detriment attend its use. The same may be said of suspension, which has been plentifully tried, and of nerve stretching. They are mentioned only to be advised against. A few years ago Charcot promulgated the fact that many of his patients with paralysis agitans were more comfortable during and after a short ride in a jolting vehicle. Assuming that the jarring and vibrations had a soothing effect on the nerve centres from which arise the tremor and rigidity, this clinician had a chair so constructed that the patient or an attendant could, by pushing a pair of upright handles backward and forward, communicate vibration to the entire body. Such a chair was in use for many months in my clinic, but nowadays it subserves only a single purpose, a seat. Its uselessness is no greater than that of other vibratory apparatuses, such as the one for the head, that have been constructed with a similar end in view. Electricity has practically no place in the therapeutics of paralysis agitans, excepting so far as it is a potent agency for suggestion. One of the most striking results of treatment in paralysis agitans is the temporary amelioration of all the symptoms on undertaking any new form of treatment. We have now under observation a man in the advanced stage of the disease who some years ago maintained that he was materially improved by some mechanical treatment given to him by another physician. On inquiry, it was found that the "treatment" consisted of taking a few tracings of the tremor. Oppenheim states that he has seen considerable benefit follow the electric bath, and especially the application of the dipolar faradaic current, but it is not improbable that the bath alone would have been accompanied by quite as much improvement.

The drugs that are in use for paralysis agitans, and from which some benefit in dissipating symptoms and fulfilling pointed indications may be expected, are hyoscyamus and duboisine, Indian hemp, opium, hæmatogenous agencies, such as arsenic and iron, and occasionally gelsemium and veratrum viride. Of these, the most important by far are the two first mentioned. Given hypodermically, which is the preferable way when possible, or by the mouth, they promptly mitigate the severity of the tremor, and have a pronounced tendency to relax the muscular rigidity. They are both powerful toxic agencies, and must therefore be given with care. Hyoscyamus (hyoscine hydrobromide, one one hundred and twentieth to one eightieth of a grain) is said to have more advocates than duboisine, but, personally, we much prefer the latter. Its administration is not so apt to be attended by disagreeable symptoms, while the effects are coequal. The sulphate of duboisine should be given in from one one hundredth to one sixtieth of a grain, two or three times daily. On the accession of vertigo, cephalic paræsthesia, disturbance of vision, nausea, dryness of the mouth and tongue, it should be stopped at once. In many instances the administration of either of these drugs is followed by almost complete cessation of the tremor for a shorter or longer time, but usually for several days. Unfortunately, they apparently have slight effect in mitigating sleeplessness, amyosthenia, and the feeling of unrepose that so many patients complain of. When these become too burdensome for the patient to bear unaided, opium or its alkaloids, preferably morphine, must be given, and especially to cause rest and sleep in advanced cases. Earlier in the disease reliance can be placed on the less baneful sleep producers, such as sulphonal, trional, paraldehyde, etc., given in the same way as they are for idiopathic insomnia. The salts of salicylic acid, particularly those of sodium and potassium, have been widely recommended, especially during the last ten years, probably suggested by the patient's complaint of rheumatic pain and by the occurrence of other more characteristic phenomena of rheumatism. After thorough trial, we are convinced that such medication is quite useless. Considering the profound degree of depression in neuromuscular tone which patients with this disease have, it seems incredible that the bromides have ever been recommended or given, but, unfortunately, they have been. They are powerful agencies for harm, and the thought of their administration should never be harbored. In some instances, especially in those cases that are not benefited temporarily by duboisine or hyoscyamus, some mitigation of the tremor and rigidity may be obtained by the administration of gelsemium or veratrum viride in from three- to five-drachm doses, three times a day. These drugs have served us more satisfactorily as symptom medicines than Indian hemp, which has the recommendation of Gowers, and which has been widely used.

Suture of the Axillary Artery.—At the French Society of Biology M. Ricard (*Indépendance médicale*, May 31st) recently presented a patient upon whom an operation had been performed eighteen months previously for an adeno-epithelioma. In the course of a second operation the recurrent tumor was resected, but the artery, being surrounded by infected glands, was accidentally opened laterally in the course of the dissection. A longitudinal suture of the artery was forthwith made and the fact of the blood repassing by the sutured artery was evident to the sight. The radial pulse was at once reestablished and had remained permanent, which showed that the suture had held and that no clot had obstructed the vessel.

THE

ÆTIOLOGY OF TEXAS CATTLE FEVER,

WITH SPECIAL REFERENCE TO RECENT HYPOTHESES CONCERNING THE TRANSMISSION OF MALARIA.*

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THE studies upon human and animal diseases carried on recently by Koch in the heart of Africa, and his enunciation of an hypothesis concerning the transmission of malaria by stinging insects, more particularly by mosquitoes, have drawn attention to the ætiology of Texas cattle fever, upon which his hypothesis was based. Our studies on Texas fever have been so fully recorded † that the only excuse I have in accepting the invitation of your president to bring out once again the salient facts in the ætiology of this most interesting disease is the moral support which it may tend to give to the inoculation hypothesis of malaria, in which I have been a firm believer for several years, until it can either be disproved or satisfactorily demonstrated to be true.

It was known for a good many years by farmers and agriculturists of the United States that healthy cattle driven north beyond a certain line during the warm season of the year would infect pastures with a virus highly fatal to the native cattle grazing on them.

When in 1868 the early slow process of driving cattle afoot was abandoned, and the steamboat and the railroad were substituted, this peculiar disease was disseminated over a wide territory, even reaching this city. It was also known that cattle driven south from the northern side of this line contracted the same disease. The investigations of Dr. D. E. Salmon during the years 1880–'84 defined more accurately this line, and showed the existence of a large permanently infected territory, including most of the Southern States. At present the National Government issues annually rules and regulations governing the movement of the cattle from this enzootic territory, so as to protect the live-stock interests of the North. But even now the rules are sometimes broken, and in 1897 this disease appeared in a number of cows about Boston. The virus had been dropped in the Albany stock yards, and from there taken to those near Boston. The line, as drawn at present by the Department of Agriculture, meanders across the country between the twenty-ninth and forty-second parallels of latitude.

The importance of knowing something of the mysterious agencies of this disease led the government and some of the States to induce a number of persons to investigate it. Beginning with 1868, various reports have been issued, the most satisfactory of these being one by R. C. Stiles on investigations made in this city in 1868 for the then Metropolitan Board of Health. Its only disfigurement is the part added by Ernst Hallier, of Jena, on the ætiology, which serves well to illustrate the vagaries of pseudo-science. Of the other reports dealing with the ætiology, the less is said the better. They can be resurrected by any one so desiring, by consulting the references in our full report.

In 1888 I was first introduced to this subject by examining portions of the organs of animals which had succumbed to it in Maryland and Virginia. These were brought to the laboratory at Washington on ice. At this time the only report which pretended to make any detailed statements concerning the lesions produced by Texas fever was the one by R. C. Stiles. It was therefore necessary to study the subject from the bottom to get some data on which to found the ætiological work. From the pieces examined in the summer of 1888 I became convinced that a corpuscle-destroying parasite was at work. Laveran's discovery and subsequent researches by Italian writers, more particularly Golgi, had paved the way for this assumption. The material was not in any satisfactory condition for studies of the blood, and this part of the work was postponed until the blood of a living animal could be examined. In the meantime appeared Babès's work on the hæmoglobinuria of cattle in Roumania.* Babès found in this disease a coccus within the red corpuscles, which he cultivated, though with difficulty, and passed through several rabbits. Subsequent events showed that he saw the true parasite, but went astray in assuming that it was a bacterium, and in cultivating some other organism, possibly that of rabbit septicæmia. He regarded the drinking troughs as disseminators of the disease. Since his first communication Babès has gradually converted his diplococcus into a protozoan parasite, and has reported the presence of ticks upon Roumanian cattle. Through the efforts of Dr. Salmon, chief of the Bureau of Animal Industry, my wish to have diseased animals within easy reach of the laboratory was carried out in the summer of 1889, and the very first cases revealed the intraglobular parasite.† It was only necessary now to interpret certain peculiar appearances of the blood-corpuscles, due to the extreme anæmia,‡ which might have been taken for stages in the life history of the parasite, and we had a ready means of diagnosis. The microscope and Thoma's blood-corpuscle counter, aided by the clinical thermometer, were thereafter the chief means of recognizing the disease. The work accomplished in the summer of 1889 furnished us with certain data concerning the pathology of Texas fever and the micro-organism to which I shall very briefly allude before taking up the mechanism of its transmission.

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* Read before the New York Academy of Medicine, April 6, 1899.

† Theobald Smith and F. L. Kilborne. *Investigations into the Nature, Causation, and Prevention of Southern Cattle Fever*, Washington, 1893, pp. 304. For an abridged reprint, see the *Eighth* and *Ninth Annual Reports of the Bureau of Animal Industry* (1891, 1892). A brief summary by the writer may be found in *Centralblatt f. Bacteriologie*, vol. xiii, 1893, p. 511, and some additional data in *Transactions of the Association of American Physicians* for 1893.

* *Archiv f. pathol. Anatomie*, vol. cxv, 1889, p. 81.

† *Medical News*, December 4, 1889.

‡ *Transactions of the Association of American Physicians* for 1891.

The acute type of the disease begins with a high fever, reaching not infrequently 107° and 108° F. The animal may succumb after three or four days of fever or after a week. In rare cases recovery takes place. During the fever only several per cent. of the red corpuscles in the peripheral circulation contain parasites. There is, however, very rapid destruction going on at the average rate of half a million of red corpuscles per cubic millimetre a day, leading in many cases to a fall from six to 1.5 million in a week. The lesions vary from case to case, depending on the duration of the disease. When the animal succumbs in the first week, the spleen is found enormously engorged, the pulp partly disintegrated. The liver is greatly enlarged, of a yellowish or saffron hue, and the bile is of the consistence of chewed grass. In sections of the fresh organ a beautiful network of bile canaliculi injected with a semisolid bile may be seen. In later stages this has disappeared, and the central portion of the lobule is now in a state of coagulation necrosis. The kidneys are enlarged, œdematous, suffused with the coloring matter of blood, and frequently the fatty tissue around them is in a state of hæmorrhagic œdema. The bladder is full of wine-red or even blackish urine. Red corpuscles are not present in it. Hæmorrhagic spots are quite common in the heart muscle, especially under the endocardium. If these various organs are examined in smear preparations, a very large number of infected corpuscles may be found in the spleen, liver, kidney, heart muscle, and plexuses of the brain. In the kidney they are largely free and resemble cocci of varying dimensions. In sections the infected corpuscles are found in the form of capillary plugs, traceable in thick sections for some distance. The parasite in the acute disease is thus largely restricted to the capillaries of the internal organs. The heart muscle has generally furnished me with the most abundant and characteristic parasites.

Starting from this acute type we may encounter all gradations down to the mildest manifestations, recognizable only by the study of the red corpuscles and the blood count. Superficial examination may even miss the rare parasites in the peripheral circulation, but in all cases the marked fall in the number of red corpuscles and, in default of an enumeration, the characteristic basophilic substance in the red cells of oligocythæmia, staining diffusely or in granules with Löffler's methylene blue, may furnish a satisfactory diagnosis. Any detailed description of the morphology of the parasite would be out of place in this paper, the more so as nothing new has been added to our knowledge since 1893. Certain statements made by Koch [*] concerning the earlier stages are easily harmonized with existing information. It is sufficient to state that the reproductive stage of the micro-organism has not been made out. There are several points, however, to which I should like to allude briefly. The earliest stage of intraglobular life I believe to be a motile, rodlike form of very small dimensions, whose movements within the corpuscle from one side to the other can be followed in the fresh blood.

It is not brought out by staining. In the further development of the organism, it is highly probable that there are two different modes of reproduction, similar to those first suggested by R. Pfeiffer for *Coccidium oviforme*, and recently made out by the combined labors of MacCallum, Simond, Siedlecki, Léger, and others for other sporozoa—namely, a reproductive process adapted for rapid multiplication within the host and one for an environment different from that of the host. This theory harmonizes many puzzling phenomena, among them the very rapid multiplication of the parasite in the susceptible animals leading to acute disease and the slow, but continuous, reproduction in the immune. None of the many animals other than cattle inoculated with infectious blood were found susceptible. The work was thereby made much more laborious and expensive.

That ticks carry the disease was suspected for many years. In 1868 Mr. John Gamgee, imported from England to study this plague for the government, wrote: "The tick theory has gained quite a renown during the past summer, but a little thought should have satisfied any one of the absurdity of the idea." When the disease was first produced near Washington by the importation of healthy North Carolina cattle, F. L. Kilborne, then superintendent of the government farm where the field experiments were conducted and in charge of the experimental animals, suggested two experiments—the infection of fields with ticks alone and the removal of ticks from Southern cattle to be penned with the natives. These were carried out and repeated during three successive seasons. They showed quite satisfactorily that the popular belief that the tick is necessary to the infection of pastures was well founded. They naturally led at first to the assumption that pastures are infected by ticks drawing the parasite with the blood, and that the native animals are infected by grazing over the infected soil, somewhat analogous to Manson's theory of the relation of mosquitoes to malaria. In order that we may understand the reasons that led to a wholly different result, a brief review of the life history of the tick is necessary. While studying this ectoparasite in 1889 I noticed that the female would lay her eggs in captivity. This fact enabled us to fill in the gaps in the life history not easily observed in the field, and Cooper Curtice,[*]

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[*] *Reiseberichte*, Berlin, Springer, 1898.

[*] *Journal of Comparative Medicine and Veterinary Archives*, 1891 and 1892.

then helminthologist of the Department of Agriculture, studied more in detail the development of the tick by placing the young upon a heifer and watching their growth. The young six-legged arachnid, after emerging from the egg, fails to develop until placed on its special host. I have kept individuals from December to May in culture dishes without noticing any change beyond a gradual destruction due to the artificial environment. When placed on cattle, their growth begins at once, and in about a week the first moult takes place, when the animal appears provided with another pair of legs. In another week a second moult introduces the sexually mature period. Fertilization then takes place, and the female begins to swell up with the growth of eggs and the large amount of imbibed blood. After about three weeks of parasitic existence the ripe female falls to the ground, deposits one to two thousand eggs, and dies. The period of development of the embryos on the soil varies within very wide limits, depending entirely on the temperature. Fifteen days is the shortest period I have observed. After emerging from the egg, the young at once seek to attach themselves to their host and begin the life cycle anew. The age of one generation, embracing the period of incubation of the ovum and the parasitic life, averages from forty to seventy days. It will be seen from this sketch that the cattle tick is exclusively parasitic in its habits, and that it does not pass from one host to another, but completes its life upon one animal.

In the second summer season, after the pathology and parasitology of the disease and the life history of the tick had been fairly apprehended, the sudden simultaneous appearance of high fever in the animals exposed in infected fields, and the new brood of ticks upon them, forced upon me like a flash the conviction that we were here in the presence of a wholly new fact in the domain of ætiology. Everything pointed to the young tick as introducing the disease by inoculation, in spite of the newness and apparent awkwardness, as it were, of this hypothesis. Especially strong testimony in its favor was the long period of incubation. The susceptible animals penned with Southern animals or in fields infected with ticks remained absolutely well for five weeks or longer after the earliest date of field infection; then with a bound the temperature rose, and in a week the majority were dead. I ransacked the older records to obtain more evidence upon the period of incubation, but the few instances recorded confirmed our field observations. This period, it should be borne in mind, dates from the infection of the pasture and not from the date of exposure of cattle on it. The tick embryos continue their development whether cattle are present or not. After the young brood has appeared, a week or even less time suffices for the outbreak of disease. This hypothesis, that the progeny of the infected tick produces the disease, left me in doubt for a time concerning the ætiological relation of the blood parasite. Could not a poison be introduced by the young tick into the blood of cattle which destroyed certain inhibitory mechanisms, and thereby favored the multiplication of an ordinary blood parasite? This doubt was nurtured by the occasional discovery of very minute refringent bodies of varying outline within red corpuscles of susceptible but healthy native cattle. Two lines of experiments were carried out to meet these new developments: First, the rearing of young ticks artificially in the laboratory and the infection of cattle with them; second, the transmission of the disease from one animal to another by the injection of infected blood without the intermediation of the tick. Both were successful. The first demonstrated the infectious character of the young tick, the second that the blood parasite, and not any poison introduced by the tick, is the real cause of the lesions. The disease produced directly with young ticks appeared to be somewhat less fatal than the natural exposure. This may be due to certain interferences with Nature's processes, such as the removal of female ticks before they are quite ready to drop, and the artificial incubation of the ova.

This disease may now be produced by any one, in midsummer, by sending to the permanently infected territory for ripe female ticks and incubating the eggs laid in confinement. As the disease does not spread from an inclosure, and as the ectoparasite is destroyed by frost, any danger to live stock is out of the question, if a little care is exercised. Any spot of ground once infected may remain so during the warm season, owing to the persistent vitality of the young tick until frost comes. The disease may in this way be exploited, if sufficient means are at hand, in the interest of a broader ætiology and pathology than that fostered for the promotion of agriculture by our national government. I would warn any one, however, against the danger of drawing conclusions from the study of too few cases. The wide range of pathological changes in the blood and tissues and the variable degree of blood infection should always be borne clearly in mind. The life of the blood parasite in the tick has not yet been elucidated. It seems most in harmony with biological science to assume that the ova become infected, and that in the young tick certain organs analogous to salivary glands, connected with the operation of drawing blood, discharge the parasite into the blood of the host.

Since the ætiology of the American disease has been cleared up the same malady has been found to exist in Finland, Roumania, Italy, Australia, South Africa, and German East Africa. It will probably be found in other similarly situated countries whenever a migration of cattle shall have taken place which will tend to mingle immune and susceptible animals. It is strange that so little attention has hitherto been given by others to the transmission of the disease. Koch showed his unusual sagacity in seizing upon this one feature of the ætiology and investigating it to satisfy himself. Undoubtedly the fairy-story element about the transmission of the disease by the progeny of the infected ectoparasite, as Koch himself expresses it, led the various observers to take the position of John Gamgee, that "a little thought should have satisfied any one of the absurdity of the idea."

There are several phases of this remarkable disease which have a very important bearing upon ætiological studies of malaria; to these I wish to allude briefly before concluding. The persistence of the parasite of Texas fever in the blood after recovery, and for years after the immune Southern animal has left the enzootic territory,* shows that a kind of symbiosis has been established between host and parasite. This symbiosis begins early in the life of the Southern cattle with perhaps several mild attacks of fever, and thereafter, though they remain well, they are nevertheless the carriers of a fatal infection for the non-immune Northern cattle. Their blood produces the acute type of Texas fever when injected under the skin.† This fact I regard as next in importance to the demonstration of the transmission of infection by the offspring of ectoparasites, because it proves that the blood parasite of Texas fever may exist for some time independent of the tick. Whether, under such conditions, in the course of time it may lose the power of existing in the body of the cattle tick, and thereby become non-transmissible excepting by direct inoculation, is quite within the domain of probability.‡ Another important fact determined by these investigations is the acquisition of immunity toward protozoan diseases. This was so thoroughly demonstrated that I need not dwell on it here. A high degree of immunity is not so easily acquired, however, as Koch's recent statements would lead us to suppose. I am inclined to believe, after a careful study of his experiment, that he was dealing with animals already endowed with considerable resistance. We know from the various researches on bacterial immunity that a partly immune animal becomes highly resistant after but little treatment. A very interesting clinical confirmation of the capacity of animals toward the acquisition of immunity is provided for us by the course of the disease itself. When animals are infected in the early months of summer the disease assumes the acute form, with high continued fever and rapid destruction of corpuscles. If the animal passes the first week alive it may recover. The temperature then falls and a rapid reproduction of red corpuscles takes place. Then there may be one or two very brief periods of high temperature with evident loss of red corpuscles and the transient appearance of parasites in the blood. Three to five weeks after the first attack there is ushered in a modified or mild type of the disease, not suggested by any outward signs of disease, but recognizable by a higher evening temperature, by persistent anæmia, and by the appearance in the peripheral circulation of large numbers of infected corpuscles. The blood parasite in this mild type or relapse appears in a form not encountered in the first acute attack. It is very small coccuslike, and situated on the periphery of the red corpuscle. These bodies, associated with very rare forms of the large pyriform bodies, may persist for four or five weeks, or until the colder weather comes. Then their disappearance ushers in the period of normal temperature and rapid rise in the number of red corpuscles. This type of fever is common in the fall, the acute stage preceding it being short and frequently not noticed. I have interpreted the peculiar features of this mild type or relapse as a resultant of partial, acquired immunity, in virtue of which the development of the blood parasite is greatly retarded, and perhaps modified, and the infected corpuscle may circulate a longer time before it becomes caught as a foreign body in the capillaries of the internal organs.

These two facts, the persistence of the blood parasite and the acquisition of immunity, I have used in building up a working hypothesis in studying the dissemination of tertian malaria in Massachusetts under the direction of the State board of health since 1896. This hypothesis assumes first of all the introduction of the malarial parasite into a region in the body of human beings. If the conditions are favorable—*i. e.*, if the infected individuals live near standing water to which mosquitoes may speedily repair and lay their eggs, and if individuals are readily accessible to the young brood for infection—the disease is likely to take root and become endemic. The blood parasite is protected over winter in the body of the infected human being. The larger the number of these, the more difficult the eradication of the disease will become unless the insects are suppressed. The harmlessness of mosquitoes in regions still free from malaria is a well-established fact. Whether they can perpetuate their own infectiousness, either by transmission of the sporozoa from brood to brood or by using some susceptible animal as host, the future must settle with the other factors of the problem. Experiments with ticks point to a loss of infectious power when they are restricted to Northern animals, but no absolute proof of this has yet been published. The appearance of malaria during the work of excavation I attribute first to the introduction of the blood parasite into the bodies of chronically infected workmen, and secondly to the accessibility of these to the insects, owing to the favorable conditions usually created during such work for breeding and for stinging the unprotected workmen. This hypothesis embraces all those conditions and phenomena regarded as necessary by older theories, but it interprets them differently. It is based wholly on analogy with Texas fever.

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* *Bulletin No. 3, Bureau of Animal Industry*, Washington, 1893, pp. 67-73.

† The persistence of the blood parasite in highly immune cattle and the infectious character of their blood must be rather discouraging to those who look forward to a malarial antitoxine.

‡ For an analogous problem in the life of *Anguillula intestinalis*, see Leichtenstern, *Centralblatt f. Bacteriologie*, vol. xxv, 1899, p. 226.

The assumption that attacks of malarial disease beget immunity is not at all weakened by the occurrence of relapses. It should be remembered that the quinine treatment interferes with the immunizing process. In the second place, relapses may simply mean a temporary interference with the protective mechanism, a congestion or temporary stagnation of the blood somewhere which enables the parasite to get at the red corpuscles in defiance, perhaps, of the leucocytes for the time being. It is along such lines of reasoning that we can explain the attachment of the South to the hydric theory of malaria. The bad ground water produces digestive derangements in individuals already infected, and an attack of malaria is called forth. That the human beings of warm climates may not harbor malarial parasites as universally as their cattle do the Texas fever organism remains to be seen.*

The clinical expression of acquired immunity does not seem to have been studied, but it deserves attention and may lead to valuable results. Certainly the analogous conditions in the cattle malaria cited above should stimulate such studies. In the examination of blood films from cases of tertian malaria occurring in a town which has been infected with it for a number of years, it has seemed to me as if in the repeated attacks of permanent infections the parasites were so scarce in the peripheral circulation that they could not be found, although the physician who has had much experience feels positive of the character of the disease. Here we are confronted by the probability that the parasites, frequently so abundant in the peripheral circulation, are gradually confined by the growth of immunity to some restricted territory representing the *locus minoris resistentiæ* during derangements of health.

The recent investigations of Ross, confirmed and materially extended by Koch and his colleagues,† showing that in the *Proteosoma* infection of certain birds the blood parasite completes its cycle of development in one and the same insect by reappearing finally in the salivary glands, so that the insect becomes infectious a certain number of days after drawing infected blood, introduces a most interesting modification of the course pursued by the blood parasite in Texas fever. In the insect the absorption and dispensing of the infection is made possible by the powers of locomotion. In the obligatory parasitism of the tick the only mode of transmission possible is through the following generation. Evidently the former is the earlier process, the latter the modification which became established during the evolution of obligatory parasitism in the cattle tick. If the life cycle of the malaria parasite should be found the same as that of the *Proteosoma* of birds, the hypothesis of the transmission of the blood parasite to the immediate progeny of the infected mosquitoes need not be abandoned unless demonstrated to be false. In my field observations the peculiar distribution of cases of tertian fever in a newly infected territory seemed to point to the scattering of an infected brood rather than to the direct transmission from one individual to another. Both modes of dissemination may eventually be found in use.

In presenting these hypotheses I must beg your indulgence, for, setting aside certain very important exceptions, the making of hypotheses is usually a less arduous task than the process of demonstrating their truth. However, I am strongly convinced that the time has come for public health authorities to take some definite stand on this matter of the spreading of tertian malaria in our own climate. The eradication of this and severer forms from the tropical colonial possessions of northern nations may be destined to remain a pious wish, and the exploiting of the natives and their induction into the advantages of our social and political organization may have to be left, as heretofore, to a few hardy pioneers, or to "immunes." At any rate, this is the only comfort we can get from Nature herself just at present. In our own climate, however, it is not too late to stay the diffusion of malaria, and vigorous efforts to that end should be made, both by popular instruction and with the help of sanitary engineering. Much of the evil which manifests itself in the increasing prevalence of the mosquito is due to the carelessness and indifference of private persons, corporations, and even public authorities, who create and perpetuate the conditions which favor the silting up and the partial drying up of our streams and smaller water courses and the stagnation of surface water. The inoculation theory of malaria is a safe one with which to begin the warfare against this disease, as it has the support of analogy, of partial demonstration, and of almost all the older theories.

EUDOXINE IN PÆDIATRIC PRACTICE.

By GUSTAVUS M. BLECH, A. B., M. D.,
CHICAGO.

About a decade ago iodoform was considered one of the most useful antiseptics known to medicine and surgery. Its many objectionable features, such as bad taste and odor, toxicity, etc., have prevented its becoming a panacea for certain affections due to germ infection.

Modern chemists, recognizing the value of iodoform, have tried to produce substitutes which, while equal in efficiency, should be free from its objectionable properties.

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* In a recent article (*Yearbook of the Department of Agriculture*, 1898, p. 466) Norgaard cites facts which show that Texas fever in a fatal form may be developed in apparently immune cattle by sudden extreme changes of temperature and by treating them with oil to remove the ticks.

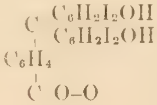
† *Deutsche medicinische Wochenschrift*, 1899, February 2.

In pædiatric practice the non-toxicity of a given drug is almost a *conditio sine qua non.*

Iodol, aristol, europhen, and nosophen are familiar synthetically produced derivatives of iodine which have of late become familiar to the medical profession.

Clinically, as a dusting powder for wounds, chancres, ulcers, etc., nosophen certainly has proved itself superior to the others in my practice, and it is my acquaintance with nosophen which led me to investigate clinically the merits of its bismuth salt, eudoxine, in a certain class of diseases of children.

Nosophen is a tetraiodophenolphthalein of the formula—



$$\begin{array}{l}C\begin{array}{l}C_6H_2I_2OH\\ C_6H_2I_2OH\end{array}\\ |\\ C_6H_4\\ |\\ C\;O{-}O\end{array}$$

It is obtained by the action of iodine on solutions of phenolphthalein.

Eudoxine is a reddish-yellow powder, tasteless and odorless, insoluble in water. On reaching the acid stomach the bismuth contained in eudoxine becomes separated from it and stable bismuth compounds are formed by the gastric juice which exert a favorable action in diseased conditions of the stomach. The nosophen contained in eudoxine passes unaltered through the stomach, but during absorption in the alkaline intestine it is changed into its sodium salt—namely, antinosine—this being held in solution and acting as a disinfectant on the bacilli and their toxines found in the intestinal tract.

Antinosine is soluble and decidedly antiseptic, in the fullest sense of the term, for it not only checks the growth of bacteria and their toxines but annihilates them. It is non-toxic, large doses injected into the system of several small dogs having failed to produce any ill effects.

Eudoxine in its original state contains fifty per cent. of iodine and only about nineteen per cent. of bismuth. We can see from this that we have nothing to fear from the latter constituent, in very small children, even if eudoxine is administered in large doses.

The same statement is made by Rosenheim, who has given the drug a thorough trial in Senator's clinic, and is corroborated by Binz and Zuntz, who have made a series of animal experiments and bacteriologic examinations. Schön-Ladniewski, in the *Wiener medicinische Presse* (No. 45, 1897), reports fifty-eight cases treated with eudoxine, and concludes his opinion on the drug thus:

"It would be a mistake to regard eudoxine as a universal remedy for all intestinal affections. Basing on my experience, I can state that eudoxine can be employed successfully only in cases in which the evacuations are mixed with mucus or pus."

I fully concur in Ladniewski's views, but must add that I have observed good results in all forms of infantile diarrhœa, even when the fæces were tinged with blood.

It would be impossible to report all my observations, covering a period of almost three years and numbering sixty-three. Many cases offering no unusual clinical features were merely marked in the visiting list, so that the diagnosis, length of disease, and final result only were noted. One case, however, is of some interest, and as I remember the details will give them in full. A tabulated list of the others will have to suffice.

L. Sz., female, Polish, aged thirteen years (Detroit), suffered from a severe diarrhœa accompanying pulmonary tuberculosis. The parents having implored the attending physician to check the diarrhœa, which seemed to prostrate the child, he prescribed bismuth subnitrate, salol, naphthol, and irrigation. The patient received a proper diet, and when I saw her limewater and milk were given, but the diarrhœa persisted. Being in the neighborhood attending a surgical case, I was called in, absence of the physician being given as the reason.

I prescribed eudoxine, five grains every three hours, and left a note for the attending physician. This was at 11 A. M. (June 6, 1897). The next afternoon the father called at my office and wanted me to take charge of the case, "my prescription having struck the disease," as he expressed it, the diarrhœa having practically ceased.

It is needless to add that I refused to take charge of the case. The attending physician told me later that the patient lived about two months after that incident.

This case certainly illustrates the superiority of eudoxine over the other drugs prescribed by the physician in charge of the case.

The ages of the other sixty-two children ranged from four months to nine years and three months. Ileocolitis was diagnosticated forty-two times; acute dysentery, three times; chronic dysentery, once; diarrhœa accompanying miliary tuberculosis, twice, and catarrhal enteritis fourteen times.

Of these died: One patient of acute dysentery, seen on the tenth day of the disease, the cases accompanying miliary tuberculosis (although the diarrhœas were checked in from twenty-four to seventy-two hours), and one child, aged nine months, from acute ileocolitis, seen on the sixth day and diagnosticated by the attending physician as "cholera infantum."

Recoveries took place: Thirty-eight in twenty-four hours, twelve in two days, two in three days, and six in four days.

Tilly's Tonic Pills.—The formula is thus given in the *Riforma medica* for April 4th:

℞ Strychnine sulphate ..... 0.30 of a grain;
Quinine sulphate, }
Extract of hyoscyamus, } each.. 15 grains;
Reduced iron .... 9 "
M. Divide into ten pills. One to be taken daily.

THE DOCTOR AS A CARRIER OF DISEASE.*

By JOHN T. HOWELL, M. D.,
NEWBURGH, N. Y.

In these times of successful quarantine and disinfection there yet remains a much-neglected danger, which every physician, to be consistent, should carefully consider and endeavor to prevent.

We have fought with pride the victorious battles against sepsis and contagion and have drawn the restrictions more and more tightly about quarantined patients, until they are beginning to dread the deprivations entailed almost as much as the disease itself. But this, we philosophize, is a necessary alternative, and not even our patients would be willing to turn back to the old way by which disease was so widely spread.

The optimist avers he can almost see the dawn of contagious immunity; but I think it is evident that that goal can not be reached until there is maintained a more perfect barrier against contagion than the following familiar picture illustrates:

A doctor is called to see a case of scarlet fever. He announces his diagnosis and recommends that the patient be strictly quarantined in a room with a special nurse, who must change her clothing whenever leaving the room, and must avoid contact with other persons, especially children. These and many other necessary restrictions on the part of the family are faithfully carried out during the whole period of the disease.

The doctor meanwhile visits his patient frequently, and in examining the throat and body comes more or less in contact with the contagion, especially by means of his clothing, which he does not change or disinfect before leaving the house.

It has been asserted in the past, even by eminent authority, that contagion could not be sufficiently impregnated by such exposure as to be carried away; but in the light of the researches of to-day such statements hardly need to be discussed. Certainly the doctor's person or clothing has not yet been proved to be immune from contagion, and I fear that a careful examination of his coat sleeves would reveal a startling number and variety of such disease germs.

Fortunately, his patients have a vigilant protector in *resistentia naturæ*, although the physician must occasionally sow some seed in the fertile soil with which he so often comes in contact. When we consider the possibilities of a contagious-disease germ—its vitality, reproductive powers, and the destruction it may cause—our responsibility as sentinels overshadows all other considerations.

Another way by which the doctor may carry disease is on his hands, especially under his nails; and the difficulty with which their proper disinfection is accomplished makes them a frequent source of infection.

Much has been accomplished by the emphasis which has been put upon this danger, but still there are physicians who continue most careless about this source of infection to their patients. I suppose many a physician would scoff at or resent the suggestion that he should wear his hair closely trimmed and beard shaven; but a second thought must convince him that the idea is in no way extreme. Then, too, his thermometer, hypodermic syringe, medicine case, prescription book, and many other daily necessities need to be watched, as they are used about from house to house and may easily become carriers of disease. All of these channels through which contagion or sepsis might be, and I believe often are, spread are well enough known, but so generally overlooked that I have thought it important to bring the danger to your attention, and at the same time offer some suggestions as to ways in which they may be averted.

In regard to contagion, it has been shown that it travels chiefly along certain well-known channels; and I believe were our energies bent almost wholly toward the control of these, many of the rigorous restrictions of the present system of quarantine might be safely relaxed. Physicians should point out these sources of danger and endeavor to educate the public to understand that it has only these to really fear, and that it is the same with contagion as in other matters—probable dangers, not possible ones, warrant attention.

The doctor in attendance upon a patient suffering from a contagious disease is most liable to carry the germs away upon his clothing, and therefore that should be properly protected, especially at those times when the contagion is most actively thrown off.

For this purpose I have worn for a number of years past a gossamer rubber overcoat, which forms a perfect protection, and because of its lightness is very convenient. A complete covering would include a hood for the hair; but with care its use is seldom necessary. With such an impervious protection, and care to avoid unnecessary contact with the patient, the doctor, after having disinfected his hands (and face, if need be), can leave the room, hang up his coat in some place provided near by, and walk out of the house conscious that he does not carry with him any of the dread contagion. I keep two or more such coats on hand, which are thoroughly disinfected after each case, and when rolled up occupy the space of the smallest kind of a bundle in my carriage.

For the disinfection of clothing, when from any accident that may become necessary, the use of formaldehyde gas is undoubtedly one of the best means we now have.

It in no way injures fabric, and therefore can be safely used to disinfect anything which can not be subjected to heat. Sterilization by high temperature is the crucial method, but obviously can be used but in a limited way for one's personal needs.

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* Read before the Medical Society of the County of Orange, N. Y., May 2, 1899.

The rubber-tissue finger cots afford us a most practical and efficient protection. They protect our fingers from infectious wounds or when making orificial examinations; and when the cots have been sterilized they will protect an aseptic wound from any infection that may be upon our fingers.

The use of these and rubber gloves has at least made it possible for us to have sterile hands at any time, and they form the last link needed to perfect aseptic surgical technique.

While the control of contagion is not so wholly within our power as that of infection, the powerful reenforcements we have received from antitoxines promise to relegate, in time, diphtheria, and perhaps scarlet fever, to the place of small-pox.

But as the control of small-pox, we should remember, was not accomplished alone by vaccination, so must the troublesome methods of quarantine and disinfection continue to be employed in the warfare against other contagious diseases.

With such a victory in view, we should renew our courage and so strengthen all of these weapons that they shall be impervious to those darts from which we have in the past failed to shield our patients.

Therapeutical Notes.

For Nephritis.—The *Progrès médical* for June 3d attributes the following to Huchard:

℞	Tincture of grindelia robusta..	450 grains;
	Tincture of convallaria majalis	150 "
	Tincture of squills	75 "

M.

Fifteen drops to be taken three times daily.

An Application for Urticaria.—The *Riforma medica* for May 9th attributes the following formula to Gaucher:

℞	Alcohol, Chloroform, Sulphuric ether, } each	3 parts;
	Menthol	1 part.

M. To be applied in the form of spray.

Iron and Cascara in the Treatment of Chlorosis.—The *Riforma medica* for April 14th gives Liégeois's formula as follows:

℞	Iron sulphate	75 grains;
	Sugar of milk	225 "
	Powdered cascara sagrada	375 "

M. Divide into a hundred powders. One to be taken after each meal.

Menthol in the Treatment of Insect Bites.—The *Gazette hebdomadaire de médecine et de chirurgie* for April 30th gives this formula:

℞	Menthol	1 to 2 parts;
	Sulphuric ether	10 "

M. To be applied lightly with a camel's-hair brush. Not to be used near the eye.

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THE RANK OF THE SURGEON-GENERAL OF THE ARMY.

WE have long held that the present rank of the surgeon-general of the army, that of a brigadier-general, was not high enough to be commensurate either with the dignity and importance of the medical corps or with the capabilities required in the incumbent of the office. We are glad to see that at its recent annual meeting the Medical Association of Georgia took action that ought to result in bringing home forcibly to the profession, and, through them, to congress the urgent need of according higher rank to the surgeon-general. We are indebted to the association's secretary, Dr. R. H. Taylor, for a copy of certain vigorous resolutions passed at the Macon meeting. They set forth that the office of surgeon-general of the army involved great and grave responsibility and the direction of vast interests, and called for the highest order of professional skill, learning, and executive ability; also that the number of officers and soldiers under the direction of the surgeon-general in an army organized like that of the United States was greater than that under a division commander; and that it was the sense of the association that the surgeon-general should have the rank, pay, and allowances of a major-general. The meeting further resolved to send copies of its resolutions to the president of the United States, to the secretary of war, to the Georgia senators and representatives in congress, and to all the medical societies of the United States requesting them to join in the association's appeal.

The committee appointed to communicate this action to other medical bodies is doing its work promptly and most commendably. The chairman, Dr. J. Lawton Hiers, of Savannah, makes the forcible remark that members of the profession who are likely to be called to the office of surgeon-general must make a sacrifice in income when they are so called, even if the rank, pay, and allowances are raised to those of a major-general, and that that consideration as well as the dignity of the profession requires, in the association's unanimous opinion, the elevation sought for. We do not see that these arguments can be refuted, and we are heartily in accord with the Medical Association of Georgia in its effort to secure the cooperation of other medical societies. We would, indeed, go further, and urge upon individual physicians the duty of exerting what influence they are capable of upon their congressmen to endeavor to bring about the proposed elevation of the office of surgeon-general of the army.

THE INSANITY PROBLEM.

It is not probable that we shall ever wholly succeed in protecting person and property against the first violent manifestation of unrecognized insanity, but all persons who have once been shown to be insane, even if only temporarily, should be kept under competent supervision and such restraint as may be found necessary. There should be no known lunatics at large, however "harmless" they may be rated. The public hardly seems to appreciate the danger it is in from the outbursts of insane propensities, and this, it is to be suspected, is in great measure due to the community's sense of self-preservation having been drowned in a sentimentality that has been aroused and is continually nourished by harrowing tales of sane persons wrongfully immured in asylums and of the cruelties alleged to be practised in such institutions. Nevertheless, the danger is great. A recent writer in the *Irrenfreund*, whose article is reproduced in the *Medicinisch-chirurgisches Central-Blatt* for April 14th, points out that accounts of outrages by lunatics are daily to be found in the newspapers in Germany, and that *Les Aliénés en liberté* is a standing headline in the great French journals of psychiatry. He cites an instance in which a young man's offenses in several German towns have been condoned on the score of his insanity, and yet he is still at liberty.

But the great asylums are full almost everywhere. What is to be done? Shall we establish great colonies for the insane like the one at Dun-sur-Auron, in France? In the *Progrès médical* for June 3d the editor, Dr. Bourneville, the well-known alienist, says that the insane there colonized complain bitterly of their exile and of their not being able to receive visits from their friends. The "family treatment" of the insane—that is, their maintenance and protection in family establishments, either their own or those of strangers—will apparently have to be resorted to on a larger scale than it has been heretofore. It is favored by the German Reichstag, but the writer in the *Irrenfreund* hints that the degree of medical supervision provided for is inadequate, not necessarily amounting to more than an examination once a year by the district physician. The problem of the family treatment of the insane has been earnestly studied by a number of French psychiatrists of distinction, particularly Dr. Cullerre and Dr. Bourneville, and the prevailing opinion among them seems to be that that form of management is applicable to a large percentage of the insane, especially at the beginning of their malady, but that it should not be carried out in their own families, but in those of strangers living within easy access of some large asylum, so that the patients may at all times be under adequate medical supervision. Experience in various countries seems to show that this is the best solution of the insanity problem at present attainable, though of course eternal vigilance is required in carrying out the plan.

THYREOID MEDICATION TO HASTEN THE UNION OF BROKEN BONES.

There is perhaps some danger that, from having been contented for centuries with looking upon the thyreoid gland as of no consequence, we may go to the opposite extreme of expecting it to accomplish things utterly beyond its power. In the *Écho médical du nord* for June 11th Dr. Lambret, chief of the surgical clinic of Lille and a railway surgeon, expatiates upon this proposition, and then comes down to the matter of the influence of the internal secretion of the gland on the osseous system. He is at some pains to recapitulate the leading observations on which we rest our present views of the part played by the thyreoid in increasing the stature by its action and of the relation of its defective action to dwarfing, rickets, cretinism, myxœdema, etc. He recounts, in particular, that in 1895 Hanau and Steinlein reported to a congress held in Frankfort their observations of the tardiness of the union of broken bones in animals that had been deprived of the thyreoid gland, and suggested, as a corollary, the use of thyreoid medication for promoting the formation of callus; also that in 1897 Gauthier recorded in the *Lyon médical* his successful adoption of this hint in practice, a course which Quénu and Folet, too, found efficient, although the last-named gentleman failed with it in one instance. There is good reason, then, to look upon thyreoid medication as likely to prove of service in cases of delayed union of fractures.

But this is not all. There appears to be some ground, in the shape of a case reported by the author, for hoping that the same treatment may so hasten the union of broken bones as to shorten materially the time usually required for their repair, although he admits that no broad conclusions should be drawn from a single instance. The case was that of a man whose tibia and fibula were broken in a car-coupling accident. On the day after the injury he was put upon the use of capsules each containing three grains of thyreoid gland, three daily. On the seventeenth day union was found to be solid. All appliances were removed, and the man was allowed to get up. In these days of time-saving it is assuredly worth while to resort to Dr. Lambret's treatment in cases of fracture, and it ought not to take long to estimate its value.

SYSTEMIC REMEDIES IN DISEASES OF THE TEETH.

In a paper recently read before the Philadelphia Academy of Stomatology, Dr. Leo Greenbaum (*International Dental Journal*, May) calls attention to the valuable aid that may be lent by internal medication to local measures in painful conditions accompanying dental diseases. He speaks highly, in hypersensitive dentine, of the excellent results obtained from the use of asafœtida, and gives an instance in which the administration of two three-grain asafœtida pills, the first an hour and the other half an hour before the time appointed for operation, induced ready submission to operation in a patient so sensitive that any exploratory manipulations had been previously out of the question. The coal-tar derivatives, acetanilide, phenacetine, etc., are very useful in quieting the reflex face pains of pulp diseases, and giving time for the arsenical or other local application to produce its effect. The author particularly praises the combination of small doses of synergists of this character (as advocated by Dr. Scheinkman in our issue for February 18th). It is obvious that physicians, especially in country places, can do much to relieve the suffering of such patients without the too commonly resorted to treatment of extraction, thus gaining time till the services of a dental surgeon are available.

A GOÎTROUS TUMOR OF THE KIDNEY.

A singular case of "aberrant goître" of a malignant nature is reported by Dr. W. Sykow (*Archiv für klinische Chirurgie*, lviii; *Annales des maladies des organes génito-urinaires*, May). A woman had a large tumor of the left kidney. The organ was removed, and its exterior showed a number of cysts containing a yellowish liquid. The suprarenal capsule was occupied by a tumor about three inches long and two inches wide, also yellowish, which had penetrated into the kidney and occupied the upper third of the gland. Nodules resembling it were found in other parts of the kidney.

SUDDEN BLANCHING OF THE HAIR.

Accounts of the hair suddenly turning gray in consequence of intense emotion are generally taken with a grain of salt, and it was perhaps in a skeptical frame of mind that the venerable Professor Virchow some years ago requested physicians who knew of such cases to report them to him. Acting on this invitation, Dr. Moritz Schmidt, of Frankfort-on-the-Main (*Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, clvi, 1), reports the case of a man in whose hair two white patches appeared on the day after a railway accident by which he was very much frightened.

A MAKER OF FREAKS.

We find in the *Gazette médicale de Paris* for June 3d a somewhat humorous account of a man named Sheard, of London, whose regular occupation seems to have been that of making models of monstrosities for anatomical museums, but who is said also to have produced freaks among living animals by vivisectional procedures. He was reputed to profess his ability to make living human monstrosities, but to have refrained from trying for fear that such an industry would be stigmatized as criminal.

THE CUTANEOUS ABSORPTION AND RENAL ELIMINATION OF IODINE.

At a recent meeting of the French Academy of Sciences (*Gazette hebdomadaire de médecine et de chirurgie*, May 18th) Dr. F. Gallard made a curious observation concerning the elimination in the urine of iodine absorbed through the skin, namely, that the amount eliminated did not increase gradually but by successive jumps, so to speak.

SANITATION IN BOGOTÁ.

Dr. J. Navas, in a communication to the Bogotá Academy of Medicine (*Revista Medica de Bogotá*, February), draws a vivid picture of the obstacles that the sanitary officials have had to encounter, many of which, we are happy to learn, they have overcome. He closes with the warning that habitual neglect of hygiene leads to degeneracy, and degeneracy to brutishness and idiocy.

THE BOGUS WORD "CURETTEMENT."

We sympathize entirely with Dr. Fehling in his objection to such terms as "curettement," "morcellement," and the like (*Centralblatt für Gynäkologie*, June 17th). He shows that *curettage* is the proper word for "curettement," and we may add that *morcellation* is better than "morcellement." Fehling cites Pinard as distinguishing between curettage (done with the curette) and curage (done with the fingers).

SAFETY ELEVATORS.

The recent deplorable accident whereby a young woman was thrown out of an elevator which started, as it would seem, before the gate was closed, injuring her so severely that she died in hospital in a very short time, calls attention to the fact that there is in existence, we believe, and in use even in this city, a device whereby an electric circuit made by the shutting of the gate sets the elevator in motion. It seems to us that some such device should be universally adopted, for elevator accidents appear to recur with disquieting frequency.

TWO NEW SIGNS OF DEATH BY SUBMERSION.

According to the *Revue médicale* for June 14th, M. Moreau (*Abeille médicale*) reported at a recent meeting of the Medico-legal Society of Belgium two new signs of death due to submersion. The first consisted of the presence of a clear, limpid fluid in the peritoneal cavity, and the second of a great quantity of clear, pale urine in the bladder. The explanation of these signs appears to be that in the act of drowning a considerable quantity of fluid is taken in by the digestive and respiratory tracts and, finding its way quickly into the circulation, causes great internal pressure with consequently increased transudation in the capillary meshwork of the kidneys and peritonæum. The author says that while the bladder secretion is occasionally wanting, that of the peritonæum is rarely absent. These signs may be of service as confirmatory evidence, but it is obvious that they are so liable to production from other causes that they would not seem to possess any great substantive value.

A COLORED MEDICAL MISSIONARY.

We are glad to see that a number of influential citizens of New York, including several physicians, are taking an interest in the effort of Dr. J. Albert Thorne to collect a fund to enable him and a party to go to Africa and labor for "the temporal and spiritual advancement of the African race." Under the auspices of the New York Preachers' Association a public meeting to further the enterprise was held in Mount Olivet Church on Thursday evening, July 6th. Dr. Thorne, a negro himself, is a West Indian by birth and a graduate in medicine of Edinburgh University.

SUDDEN EXOPHTHALMIA FROM DISEASE OF THE FRONTAL SINUS.

In our issue for July 1st we referred to a case of occasional displacement of the eyeball in a glassblower. An example of exophthalmia coming on suddenly as a result, apparently, of acute inflammation in the frontal sinus is reported by M. Jacqueau (*Lyon médical*, June 11th). The eye was forced downward and outward, as well as forward, and a pasty mass could be felt in the space between the globe and the upper and inner wall of the orbit. The author does not think there was a direct communication between the orbit and the frontal sinus, but that the inflammation passed through the bony barrier intervening.

PROTECTIVE INOCULATION AGAINST THE TEXAS CATTLE FEVER.

In the *Proceedings of the Royal Society* for May 25th there is an encouraging account by Alexander Edington, M. B., F. R. S. E., director of the Bacteriological Institute, Cape Colony, of certain results of a method of protective inoculation by intravenous injections of defibrinated blood from infected animals. "In May, 1898," he says, "I inoculated ten head of old cattle with blood from an animal which had been inoculated, six months previously, with virulent blood. These cattle were immediately removed from the institute, and later sent to an infected area in company with ten head of young animals which were uninoculated, but, as is commonly known in this colony, are not so liable to death from this disease as are older animals. Of the young stock all have been infected by exposure in the veld, and three have died. Of the older, more susceptible, animals not one has shown the slightest signs of illness, and the cows have given birth to healthy calves."

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 1, 1899:

DISEASES.	Week ending June 24.		Week ending July 1.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	16	5	30	8
Scarlet fever	130	14	93	8
Cerebro-spinal meningitis	0	7	0	5
Measles	330	12	278	8
Diphtheria	198	30	191	31
Croup	7	3	11	7
Tuberculosis	165	145	140	139
Small pox	2	2	7	0
Chicken-pox	21	0	19	0

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, plague, and leprosy were reported to the surgeon-general during the week ending July 1, 1899:

Small-pox—United States.

Evansville, Ind.	June 10–17	1 case.	
Kansas City, Kan.	June 16–23	2 cases.	
New Orleans, La	June 10–17	1 case.	
Boston, Mass.	June 24	2 cases.	
Fall River, Mass.	June 21	Total to date, 34 cases.	
Appleton, Minn.	June 16	To date, 12 cases.	
Worthington, Minn.	June 16	5 "	
Farmington, Mo.	June 19	Reported.	
St. Joseph, Mo.	Oct. 26–Apr. 29	56 cases,	1 death.
St. Louis, Mo.	June 19	9 "	
Omaha, Neb.	June 10–17	2 "	
New York, N. Y.	June 17–24		2 deaths.
Philadelphia, Pa.	June 24	2 "	
Pittsburgh, Pa.	June 10–17	1 case.	
Ponce, Porto Rico	June 10	1 "	
Cleveland, Ohio	June 3–17	13 cases,	1 death.
Columbus, Ohio	June 16–23	1 case.	
Massillon, Ohio	June 17	1 "	
Greenville, S. C.	June 10–17	1 "	
Newport News, Va.	To June 24	683 cases,	14 deaths.
Norfolk, Va.	To June 22	822 "	14 "
Portsmouth, Va.	To June 22	344 "	5 "
Spokane, Wash.	June 17	4 "	

Small-pox—Foreign.

Antwerp, Belgium	June 3–10	3 cases,	1 death.
Rio de Janeiro, Brazil	May 5–19	60 "	20 deaths.
Nuevitas, Cuba	June 16	1 case.	
Cairo, Egypt	May 22–June 3		4 "
London, England	June 3–10	1 "	1 death.
Athens, Greece	June 3–10	18 cases,	7 deaths.
Bombay, India	May 23–30		9 "
Madras, India	May 13–26		3 "
Moscow, Russia	May 27–June 3	34 "	7 "
Odessa, Russia	June 3–10	6 "	3 "
St. Petersburg, Russia	May 27–June 3	25 "	5 "
Warsaw, Russia	May 27–June 3		1 death.
Glasgow, Scotland	June 3–10	1 case.	
Smyrna, Turkey	June 3–10		1 "

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	May 6–19	34 cases,	17 deaths.
Havana, Cuba	June 8–15		1 death.
Matanzas, Cuba	June 20	1 case.	
Santiago, Cuba	From outbreak to June 26	35 cases,	11 deaths. All but 4 were among troops.
Tampico, Mexico	June 3–9	2 cases.	
Vera Cruz, Mexico	June 8–22		79 deaths.

Cholera.

Bombay, India	May 23–30		2 deaths.
Madras, India	May 20–26		5 "

Plague.

Bombay, India	May 23–30		124 deaths.
Madras, India	May 20–26		1 death.
Bunshir, Persia	June 8	1 case.	

Leprosy.

Eagle Pass, Texas	June 30	1 case.	

Change of Address.—Dr. J. B. Gregg Custis, to No. 912 Fifteenth Street, McPherson Square, Washington, D. C.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 24 to July 1, 1899:*

Appel, Daniel M., Major and Surgeon, is granted leave of absence for two months.

Cooney, Daniel C., Acting Assistant Surgeon, is assigned to duty in the office of the chief surgeon, Matanzas, Cuba, as assistant sanitary inspector.

Fauntleroy, Powell C., First Lieutenant and Assistant Surgeon, and Ford, Joseph H., First Lieutenant and Assistant Surgeon, will proceed to the Philippine Islands on the transport *Sheridan.*

Greenleaf, Charles R., Colonel and Assistant Surgeon-General, is announced as sanitary inspector of the camps of the returning volunteer troops.

Kramer, S. P., Major and Surgeon, will proceed to Camp Young, Guanajay, and Camp Egbert, Pinar del Rio, for the purpose of making a medical and sanitary inspection of the hospitals and camps located there.

Thomason, Henry D., Surgeon, United States Volunteers, will report to the commanding officer, Tenth Cavalry, to make the physical examinations of the veterinaries of that regiment.

Wilson, Roy A., Acting Assistant Surgeon, will proceed to Willet's Point, New York.

Wilson, William H., Captain and Assistant Surgeon, will proceed to the Presidio, San Francisco, for duty at the camp of recruits.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending June 29, 1899:*

Sawtelle, H. W., Surgeon. Detailed as inspector of relief stations of the third and fourth class.

Woodward, R. M., Passed Assistant Surgeon. Upon being relieved by Thomas, A. R., Passed Assistant Surgeon, to proceed to Washington, D. C., for assignment to duty.

Thomas, A. R., Passed Assistant Surgeon. Upon being relieved by Vaughan, G. T., Passed Assistant Surgeon, to proceed to Reedy Island Quarantine Station and assume command of the service.

Hallet, E. B., Acting Assistant Surgeon. Granted leave of absence for two days from July 4, 1899.

Walkley, W. S., Acting Assistant Surgeon. Granted leave of absence for three days from June 28, 1899.

Brunner, W. F., Sanitary Inspector. Granted leave of absence for three days from June 28, 1899.

Rodman, J. C., Sanitary Inspector. Granted leave of absence for seven days from June 27, 1899.

Thurston, E. J., Hospital Steward. To proceed to New York for special temporary duty.

Promotion.

Pettus, W. J., Passed Assistant Surgeon. Commissioned as surgeon.

Appointment.

Townsend, Frederick, of Michigan, to be acting assistant surgeon, United States Marine-Hospital Service, for duty at Sault Ste. Marie, Michigan.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending July 1, 1899:*

Bell, W. L., Assistant Surgeon. Detached from the Naval Hospital, Mare Island, California, and ordered to the *Philadelphia.*

Bogan, F. M., Assistant Surgeon. Ordered to additional duty at the Boston Navy Yard.

Brodrick, R. G., Passed Assistant Surgeon. Ordered to Washington, July 6th, for examination for retirement, and then home to await orders.

Odell, H. E., Assistant Surgeon. Detached from the *Philadelphia* and ordered to the Naval Hospital, Mare Island, California.

Rosenbleuth, J. C., Passed Assistant Surgeon. Detached from the *Buffalo,* when put out of commission, and ordered to the *Vermont* immediately.

Society Meetings for the Coming Week:

Monday, *July 10th:* New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

Tuesday, *July 11th:* Medical Societies of the Counties of Chautauqua (annual), Clinton (semiannual), Greene (quarterly), Jefferson (semiannual—Watertown), Madison (annual), Oneida (quarterly—Utica), Ontario (annual—Canandaigua), Rensselaer, Schuyler (semiannual), Tioga (semiannual—Owego), and Wayne (annual), New York; Newark (private) and Trenton, New Jersey, Medical Associations; Clinical Society of the Elizabeth, New Jersey, General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *July 12th:* American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Tri-States Medical Association (Port Jervis), New York; Franklin, Massachusetts, District Medical Society (quarterly—Greenfield); Hampshire, Massachusetts, District Medical Society (quarterly—Northampton); Worcester, Massachusetts, District Medical Society (Worcester); Kansas City, Missouri, Ophthalmological and Otological Society.

Thursday, *July 13th:* Brooklyn Pathological Society; Medical Society of the County of Cayuga, New York; South Boston, Massachusetts, Medical Club (private).

Friday, *July 14th:* German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, New York.

Births, Marriages, and Deaths.

Married.

BAUGH—WILLIAMS.—In Berwyn, Pennsylvania, on Wednesday, June 28th, Dr. Anthony E. Baugh, of Paoli, Pennsylvania, and Miss Mary Elizabeth Williams.

BENTLEY—MYERS.—In Plattsburgh, New York, on Wednesday, June 28th, Dr. Charles S. Bentley, of New York, and Miss Gertrude Myers.

DAVIS—MUTSCHLER.—In Rochester, on Tuesday, June 27th, Dr. James Clement Davis and Miss Mary Fredericka Mutschler.

HUTCHINSON—HUNTINGTON.—In Islip, Long Island, New York, on Tuesday, June 6th, Mr. Moultrie Brailsford Hutchinson and Miss Katharine Huntington, daughter of Dr. George Huntington.

LYON—JONES.—In New York, on Wednesday, June 28th, Dr. J. F. Lyon and Miss Grace Hamilton Jones.

MARTIN—STARR-KEEFER.—In Providence, Rhode Island, on Wednesday, June 21st, Dr. John Macleod Martin, M. R. C. P. Lond., and Mrs. Elizabeth Starr-Keefer.

RIORDAN—CALDWELL.—In Providence, Rhode Island, on Wednesday, June 28th, Mr. Daniel J. Riordan and Miss Edith Maude Caldwell, daughter of Dr. William M. Caldwell.

SEARS — SALISBURY.—In Boston, on Wednesday, June 28th, Dr. Walter S. Sears, of Worcester, Massachusetts, and Miss A. L. Salisbury.

SMITH—BROWNE.—In New York, on Wednesday, June 28th, Dr. Reginald Knight Smith, United States Navy, and Mrs. Alice Scott Browne.

TRAVELL—DAVIDSON.—In Albany, New York, on Thursday, June 29th, Dr. J. Willard Travell, of New York, and Miss Janet Davidson.

Died.

LAMBERT.—In New York, on Sunday, July 2d, Isabelle Chesterman Lambert, wife of Dr. Walter Eyre Lambert.

NOBLE.—In Jersey City, on Thursday, June 29th, Dr. Francis E. Noble, in the seventy-fifth year of his age.

Letters to the Editor.

SUMMER HEAT AND THE SUMMER DIARRHŒA OF INFANTS.

144 WEST EIGHTY-FIFTH STREET, *June 16, 1899.*

To the Editor of the New York Medical Journal:

SIR: In an editorial article in the *Journal* for June 10th on Summer Heat and the Summer Diarrhœa of Infants, the idea is conveyed that the main effect of summer heat in the causation of diarrhœas in infants consists in the decomposition of cow's milk and other foods used as substitutes for mother's milk. The position taken in the said editorial assumes to be strengthened by referring to a paper by Dr. Stawell, of Melbourne, published in the *Intercolonial Medical Journal* for March, 1899. Reference is made to the view that other influences of summer heat upon the infant organism, as a causative factor in the production of summer diarrhœa, are now regarded by the best authorities as of minor importance. Such expressions of opinion in a leading medical journal, as yours is, might on first thought not be necessary to be challenged by those of the profession familiar with diseases of children; but when it is considered that many other physicians may be led to follow the announced idea that the all-important question in the prevention of summer diarrhœas is to prepare and maintain such food as will best simulate mother's milk, either by sterilization, pasteurization, percentage modification, or otherwise, without taking into account the direct devitalizing influence of the excessive summer heat, especially in large cities, upon the general physiological mechanisms of the infant organization, then I think it is only right and proper that the other side of the question should be fairly and prominently stated.

It is as important, in my estimation, to provide against the deleterious effect of heat upon the infant's weak constitution as it is important to guard against the entrance of disease-producing germs into the intestinal canal. For if the infant is overfed, for instance, with even sterile food, abnormal intestinal fermentation will occur because the digestive functions of the stomach and intestines will be weakened and poorly performed from the effect of long-continued excessive heat. This fact has been repeatedly demonstrated. We all know that even in the adult hot weather causes a loss of appetite, which is the physiological index of perfect gastric function.

Dr. Stawell's quoted statement that he has never met with a single fatal case of summer diarrhœa in an exclusively breast-fed infant must surely imply that it was the skill of the physician that gave him the experience, for no one of any extensive practice among infants in a climate subject to high summer temperature will deny that breast-fed infants do have diarrhœa in summer.

Entire attention, in recent years, has been directed toward a proper modification and preparation of artificial foods for infants as a protection against summer diarrhœas, and it is about time that attention should also be called toward the equally great importance of *keeping the infants as cool as it is possible to do.* They are helpless innocents whose heat-regulating centres are weak, and they must be assisted or take chances of dying. The suggestions made by Dr. Chapin, in his most excellent paper recently read before the New York Academy of Medicine, are to my mind of the highest importance, and especially the recommendation he makes for the city authorities to plant trees along our streets in order to cool the air of summer, as well as to furnish shade, absorb impurities from the atmosphere, and beautify the city.

In teaching students at my clinic I endeavor to impress upon them the importance of keeping the infant cool during the heat of summer by every known means, and I am confident that the summer sojourn in the country, where the air is at least cooler at night and at all times purer than in the overheated cities, the wholesome excursions on the water, and the common-sense practice of frequent cool bathing save the lives of infants in summer as much through relief from excessive heat as the being able to use fresh milk from a cow that can be milked twice daily, as explained by Dr. Stawell.

S. HENRY DESSAU, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XXVI.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(Continued from page 28.)

Rules for Determining Skill. — In determining whether or not a physician is possessed of the requisite amount of knowledge, or exercises the proper degree of skill, due regard must be had: First, to the school of medicine which he practises; and, second, to the advanced state of the profession at the time the particular services were rendered.

Practice of the Particular School Governs.—There being different and distinct schools of medicine, recognizing different principles and different modes of treatment, it follows that the treatment of a physician of one school must be tested by the general doctrines of his own school, and not by those of other schools.*

While the justice and, in fact, the necessity of this law are almost too evident to permit of comment, it will perhaps be desirable to examine one or two cases.

A case in which the rule was extended to a degree to which it could not be at this day, because of the more adequate laws protecting the public from quacks, is that of Bowman *vs.* Woods.† In this case the defendant claimed to be a botanic physician. The cause of action arose from alleged unskillful treatment of a patient in a confinement case. About thirty-six hours after the delivery a Dr. C. was called in as consulting physician, and upon the trial he testified in effect that at the time he arrived the placenta was not removed; that the patient was greatly prostrated by the severity of the labor and the loss of blood; and that she was also suffering from a distention of the bladder, which had not been evacuated since parturition. He gave it as his opinion that the placenta should have been removed and the distended state of the bladder relieved at a much earlier period; and that such delay would be likely to produce puerperal fever. Several other physicians, as witnesses, concurred in Dr. C.'s views of the practice.

The defendant then offered as evidence in his own behalf the testimony that he was a botanic physician, and that, according to the botanic system of practice and medicine, it is considered improper to remove the placenta, and that it should be permitted to remain until expelled by the efforts of Nature. The proof of these facts being objected to, they were ruled out by the trial judge. The supreme court, upon reviewing the case, was of the opinion that the trial court erred in not admitting the proffered evidence of the defendant. Justice Greene, after observing that the several schools of medicine were then alike unprohibited and enjoyed equal legal rights in Iowa,‡ said: "A person professing to follow one system of medical treatment can not be expected by his employer to practise any other. While the regular physician is expected to follow the rules of the old school in the art of curing, the botanic must be equally expected to adhere to his adopted method. But on the part of every medical practitioner the law implies an undertaking that he will use an ordinary degree of care and skill in medical operations, and he is unquestionably liable for gross carelessness or unskillfulness in the management of his patients; and still the person who employs a botanic practitioner has no right to expect the same kind of treatment or the same kind of medicine that a regular physician would administer. The law does not require a man to do more than he undertakes, nor in a manner different from that which he professes. Therefore, if in the case the defendant below could show that he was employed as a botanic physician, and that he performed the accouchement with ordinary skill and care, in accordance with the system he professed to follow, we should regard it as a legal defense. It would show a full compliance with his profession and undertaking; and if injury resulted from it to the plaintiff, he could properly blame no one but himself.

. . . .

"The people are free to select from the various classes of medical men, who are accountable to their employers for all injuries resulting from a want of ordinary diligence and skill in their respective systems of treating diseases. It is to be lamented that so many of our citizens are disposed to trust health and life to novices and empirics, to new nostrums and new methods of treatment. But these are evils which the courts of justice possess no adequate power to remedy. Enlightened public opinion and judicious legislation may do much to discountenance quackery and advance medical science."

Upon reading this case one can not help rejoicing in the approximate realization of the prophetic hope expressed by the court, for at the present day, excepting in a few States, a defendant would be unable to invoke the protection of an unwilling court by showing that his vicious ignorance of the laws of medicine and of health was sanctioned by the so-called school he professed to follow.

A recent application of the rule is found in the case of Force *vs.* Gregory.* There the patient was treated for ophthalmia by the defendant, who is a homœopathic physician, and who introduced evidence to show that in treating the plaintiff he adopted the remedies prescribed by the homœopathic practitioners. The plaintiff showed that the old-school practitioners would have treated such a case differently, and that she should have received the latter mode of treatment. The defendant's counsel asked the court to instruct the jury that the propriety of the treatment of the patient must be tested by the doctrines of the defendant's school of medicine. The court refused to give the instruction asked, but instead instructed the jury in such a way as to leave it uncertain whether the defendant's treatment was to be judged by the rules and practice of his own school alone, the instruction given being of the sort calculated to direct the attention of the jury to the relative merits of the two systems. Under this instruction the jury found a verdict for the plaintiff. The supreme court, in reviewing the case, disapproved of the instruction and reversed the judgment. In criticising the instruction given the jury Justice Fenn said: "The jury, we think, should have been told that the relative merits of the two schools were in no sense before them for their consideration; that so far as the defendant was to be judged by either, it was by the tenets, rules, principles, and practices of his own school, not by those of another; and if the defendant adopted the treatment laid down by his own school, the fact that another school prescribed another treatment tended in no wise to show that the defendant was chargeable with lack of skill or negligence. It would seem that if it could be held negligent or unskillful in a given case to use the treatment prescribed by the school to which the practitioner belonged, such negligence or want of skill must consist either in the mode of use, the application of such remedies under improper circumstances, or because they were intrinsically wrong, inappropriate, or inadequate. If there be any valid objection to the language quoted from Patten *vs.* Wiggin—viz., 'The jury are not to judge by determining which school, in their own view, is best'—it is in the failure to incorporate with the general statement the further one that the test there given does not exclude the duty of keeping pace with the progress of professional knowledge, ideas, and discoveries, to the extent that a faithful, conscientious, and competent practitioner, of whatever school, may be reasonably expected, and is therefore lawfully required to do."

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* Patten *vs.* Wiggins, 51 Me., 594.

† Bowman *vs.* Woods, 1 Greene, Ia., 441.

‡ This decision was rendered in 1848.

* Force *vs.* Gregory, 63 Conn., 167.

Perhaps the case of greatest interest recorded in the law reports in which this question was raised is that of Nelson *vs.* Harrington.* In this case the defendant was a spiritualist or clairvoyant physician. The evidence showed that the patient, a boy of about fifteen years of age, accompanied by his father, called upon the defendant about September 1st. The boy was suffering from a disease of the hip joint, but the defendant diagnosticated the disease as rheumatism and prescribed treatment accordingly. He continued to treat the case until about the middle of the January following, and during that time encouraged the patient in persistent walking, asserting that walking was beneficial to him. In January the leg became so much worse that he was unable to walk and suffered great pain. Other physicians were then called in and the patient was benefited, but will remain a cripple for life.

The counsel for the defendant urged that he professed the clairvoyant system of medicine, and that if he treated the patient with due care and skill in accordance with the rules and practice of that school or system of medicine he complied with the requirements of the law and was not liable for unfavorable results of his treatment.

The supreme court, in determining the weight to be given to this defense, carefully reviewed the methods of the alleged school of clairvoyants, which may be described as follows: The mode of diagnosis consists in going into a sort of a trance condition, and while in such state discovering the condition of the patient and prescribing for the malady so disclosed. The spiritualist professes to have no medical knowledge, but trusts implicitly to the correctness of the diagnosis made and prescription given while in such state.

To constitute a school of medicine there must be rules and principles of practice for the guidance of all its members, as respects diagnosis and remedies which each member is supposed to observe in any given case, and each competent practitioner of a certain school would treat a given case in substantially the same way. The court says: "And so one school may believe in the potency of drugs and bloodletting, and another may believe in the principle of *similia similibus curantur;* still another may believe in the potency of water, or of roots and herbs; yet each school has its own peculiar principles and rules for the government of its practitioners in the treatment of diseases." The court then observes that clairvoyants recognize one mode of practice only to the extent of obtaining a knowledge of the condition of their patients, but that the treatment prescribed by different clairvoyants differs as greatly in similar cases as that prescribed by physicians of entirely different schools, and that by prescribing such different remedies for the same disease they can be said to violate no rule or system of clairvoyant treatment. The court therefore concludes that those practising medicine as clairvoyants form no school of medicine, and have no particular system or rules by which they can be judged.

Regard must be had to the Advanced State of Medical Science.—The idea expressed by the court in the last part of the quotation from the opinion in the case of Force *vs.* Gregory brings us to the subject next in order of consideration, which is, that in judging of the knowledge and skill displayed in a given case due regard must be had to the advanced state of medical science at the time the particular services were rendered. In referring to the improvements in medical and surgical science, and the right of the patient to the benefit of these improvements, Justice Woodward said nearly fifty years ago: "Discoveries in the natural sciences for the last half century have exerted a sensible influence on all the learned professions, but especially on that of medicine, whose circle of truths has been relatively much enlarged; and besides, there has been a positive progress in that profession resulting from the studies, the experiments, and the diversified practice of its professors. The patient is entitled to the benefits of these increased lights. The physician or surgeon who assumes to exercise the healing art is bound to be up to the improvements of the day." *

The application of the test is very well illustrated in the case of Gates *vs.* Fleischer.† In this case the plaintiff had recently given birth to a child, from which she suffered a slight laceration of the cervix. Not regaining her strength satisfactorily, she called in the defendant, about five or six weeks after the delivery of the child, to treat her. The defendant made a local examination, and stated that she was suffering from uterine disease, and applied caustics to the cervical canal on the theory that those parts were ulcerated. This treatment was continued for several months.

The defendant, deriving no benefit from this treatment, after a lapse of about eight months consulted a specialist, who found the cervical canal entirely closed. This was opened by artificial means. The evidence also showed that during the entire time of her illness the plaintiff was suffering from septicæmia.

Upon the trial of the case evidence was given to the effect that the plaintiff had no ulcers upon her uterus or in the cervical canal, and that the treatment with caustics was unjustifiable; that advanced medical science discards the use of caustics in cases of ulceration, as a dangerous practice; and that the treatment applied had caused cicatrix in the cervical canal, etc. The trial court, in instructing the jury upon the law applicable to the case, told them that the physician was bound to bring to the treatment of the case such skill as is ordinarily possessed and exercised by physicians and surgeons in such localities, "having regard to the advanced state of the profession at the time of the treatment." This instruction the supreme court held to be entirely proper and suited to the evidence adduced at the trial.

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* Nelson *vs.* Harrington, 72 Wis., 591; 1 L. R. A., 719; 40 N. W. Rep., 228.

* McCandlass *vs.* McWha, 22 Pa., 261.

† Gates *vs.* Fleischer, 67 Wis., 504.

In the case of Almond *vs.* Nugent,* the opinion of Chief-Justice Beck reviews several important features of the ground just passed over in such a masterly way that the following extended quotation is taken therefrom. The chief justice said: "The first one [of the instructions] is clearly objectionable in holding the civil responsibility of the surgeon to be governed by the same rules of law as those that apply to mechanics and to others engaged in some of the other pursuits mentioned. As a general rule, mechanics are answerable for results, and the real test of their skill is the success of their work. Not so with the physician and surgeon. They are required to exercise due skill, but are not responsible if the desired result fails. The skillful mechanic will always be successful. The materials which he undertakes to shape and fashion are subject to known laws, and are completely under his control. The surgeon and physician apply their skill to human bodies which are subject to laws, both physical and mental, almost infinite in number—many uncertain and many unknown. The diseases which they combat are not under the full dominion of human skill and wisdom. They are not expected to resist and avert the approach of death, which ultimately destroys all.

"The third instruction above quoted is equally objectionable. The thought that the physician and surgeon are required to keep up with the progress of the day in their respective professions accords with my views (expressed in a previous case). . . . But the rule announced, that the practitioner must apply himself to the 'most accredited source of knowledge,' imposes a requirement that can not be admitted. It demands that the surgeon shall be educated by instructors of the most established reputation, that he shall resort to schools of the widest fame, and study books of the first authority. The rule condemns all knowledge not acquired in this way, and fixes, as a standard of ordinary skill, attainments gained from the prescribed course of preparation for the discharge of professional duties. . . . Humble and unknown instructors of obscure schools may be sources from which the professional man may gain thorough knowledge of the principles of his profession. . . . The law requires skill and makes no inquiry as to the source whence it is obtained.

"The last sentence of the instruction under consideration is, if possible, more faulty. It holds the surgeon liable in damages if he fails to exercise his art or profession rightly and truly as he ought. Here absolute accuracy and certainty are demanded. No allowance is made for failure to administer the proper remedy in cases where the highest skill will leave the professional man in doubt at the time he is required to act. As we have before remarked, many laws of Nature, applicable to the administration of remedies for the diseases of the human body, are not fully understood; many are unknown. In obedience to an occult law an approved remedy may fail. Symptomatic indications often refuse to inform the physician or surgeon of the real disease which his skill is called upon to combat, and an autopsy reveals, too late, conditions of the organs of the patient, that could have been discovered in no other way, which demanded a different course of treatment. As it is impossible for the surgeon or physician, possessing even the highest degree of skill, always to act rightly and truly as he ought, the practitioner should not be held liable if, in the faithful and honest exercise of ordinary skill, which is only demanded, he fails to use the right remedy."

(To be continued.)

Pith of Current Literature.

A Case of Diverticulum of the Œsophagus.—Zahorsky (*St. Louis Medical Gazette,* May) records a case of diverticulum of the œsophagus which from its location he considers unusual. Such diverticula usually occur opposite the cricoid cartilage, and are considered due to a congenital weakness at that point. The patient, a man aged twenty years, was not a subject of tuberculosis or syphilis. There were no stigmata of degeneration. During childhood he used to spit a good deal of mucus and had a disagreeable sensation during deglutition. He had never swallowed any corrosive. For years the difficulty of deglutition had increased, and there was regurgitation of food during or after meals and at bedtime. When the patient attempted to eat he swallowed several mouthfuls, but it all seemed to stop somewhere before it reached his stomach; finally, he swallowed by contracting all the muscles of the neck and fixing his respiratory muscles, and by this extraordinary effort succeeded in forcing the food into his stomach. The case had been diagnosticated as stricture, and the patient taught to introduce a hard bougie.

Two facts concerning the patient were definite: First, he had great difficulty in swallowing; second, he regurgitated large quantities of food at various intervals. What pathological condition of the upper alimentary tract could explain these prominent symptoms?

The great difficulty in swallowing could only be explained by a narrowing of the œsophageal canal. What caused this narrowing in calibre? A large hard-rubber bougie was introduced and passed without difficulty into the stomach. The conclusion was inevitable that no organic stricture was present. The contraction in the lumen must, therefore, arise from some tumor pressing on the gullet or, as has been shown in at least one instance, an angular flexure of the œsophagus. Finally, spasm of the cardiac orifice must be considered.

In regard to the regurgitation or vomiting of food the question of its source presented itself. If this food came from the stomach the diagnosis of rumination seemed probable. A chemical examination of the regurgitated food revealed the starch well digested; entire absence of hydrochloric acid; pepsin not demonstrable; and lactic acid showed a marked reaction by Uffelman's test; peptones absent. Microscopically starch granules were numerous, but meat fibres were totally undigested. This showed that either it did not come from the stomach or that that organ secreted no true gastric juice.

The physical examination revealed no abnormity in the lungs, heart, or abdominal organs. Posteriorly over the chest in the left infrascapular region a small area of dullness was discovered. Over this there existed an absence of the respiratory murmur. Urinary examination showed nothing abnormal. By *clapotement* a loud splashing sound was heard over the epigastrium, so that gastrectasis seemed possible. On auscultation over the œsophagus during the act of swallowing the deglutition murmur was not audible.

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* Almond *vs.* Nugent, 34 Ia., 300.

Ewald's test breakfast was given, and an hour afterward the stomach tube was passed. To the author's surprise, it did not enter the stomach, but at a distance of fifteen inches and three quarters it met an obstruction. Nevertheless, nearly one pint of fluid and food was withdrawn, which seemed to contain the ingredients of the test breakfast, and also a piece of coagulated egg albumin which the patient asserted that he had ingested the day before. Clearly it seemed that a diverticulum existed immediately above the diaphragm. One peculiarity seemed important—viz., that while the rigid bougie could pass into the stomach, the soft, flexible tube could not be induced to enter. More experiments with the bougie demonstrated that at times it seemed to meet with some obstruction, at other times it would enter the stomach. The author was unable to procure a rigid stomach tube, consequently after many trials he gave up the attempt to introduce the soft-rubber tube into the stomach. After each meal nearly one pint of fluid could be emptied from the sac. After emptying the sac, the dullness in the left infrascapular region constantly disappeared.

The patient was given a soft-rubber stomach tube and instructed to introduce it and empty the diverticulum after each meal. A few days afterward he returned with the surprising information that he had pushed the tube into his stomach, and to demonstrate it, after several failures he finally pushed the tube to twenty inches and a half. Some contents were immediately expressed. Hydrochloric acid by Boas's test presented a marked reaction; the biuret reaction showed the presence of peptones, and pepsin was also demonstrated. This was in marked contrast to the many examinations which had never shown either hydrochloric acid, pepsin, or albumoses.

A great many other tests were made. A capsule of potassium iodide was swallowed on an empty sac. Twenty-five minutes later no trace could be found in the saliva by nitric acid and starch paper. One drachm each of tartaric acid and bicarbonate of sodium ingested in solution separately did not distend the stomach, but repeated eructations ensued. It was obvious that it entered the sac, the orifice of which was too large to prevent the escape of the carbon dioxide formed.

These examinations very clearly demonstrated the existence of a pulsion diverticulum of the œsophagus situated immediately above the diaphragm. Its size was larger than any of which the author was able to find a record; it held about fourteen ounces. Diverticula at this location are very rare, according to Zenker.

Prognosis seemed rather unfavorable. The danger lay in the possibility of ulceration and subsequent perforation, and in the continued enlargement of the sac with a consequent complete stenosis of the gullet. Food entered this dilatation first, which, becoming full, pressed on the sides of the œsophagus, thus occluding the lumen below the mouth of the sac. This last-mentioned danger is almost sure to arise in time. Surgical intervention, on account of the peculiar location, being surrounded by important structures, seemed impossible, and in consultation Professor Tuholske advised against an operation.

The treatment consisted in evacuating the sac with the stomach tube after each meal. Thus the patient ceased to regurgitate food in the interval between meals and at night and felt very well.

A few months later he presented himself one evening, saying that he had visited Schrader, the healer, in Illinois, and felt so much stimulated that he ate his supper without much distress, and believed himself healed. A few days later he acknowledged that he was still the same.

Three years have elapsed. The condition is about the same.

"Old Maids' Insanity."—Mr. W. J. Handfield Haslett (*Treatment*, June 8th), in an interesting paper on Some Climacteric Neuroses, read before the Thames Valley Branch of the British Medical Association, says:

"There is another variety of climacteric disease which is purely mental, of slow development, and very incurable. For want of a better name, it is called 'old maids' insanity.' This variety is not very common, and I have only had three cases under my care. It occurs in single women who have led a severely strict and virtuous life, devoting themselves to religious and intellectual work, and carefully repressing the animal side of their nature. They are generally far from attractive, but this, I presume, is a coincidence. Just before the menopause sets in there seems to be a spurt of erotic excitement, and some unfortunate man, frequently a clergyman, becomes the victim of their attentions. One of my cases was a very typical one, and may be thus shortly described: The lady was forty-two, and lived a rather solitary and egotistical life in lodgings, being very much devoted to church matters. She was a member of the flock of an aged vicar, who was a very accessible man, and no doubt the lady saw a good deal of him. At any rate, she never missed an opportunity of seeing him, and he could never turn a street corner without running the chance of meeting her. Her whole life became dominated by one thought—the vicar. This doubtless arose from the fact that she had no other interests in life. Every word the vicar said to her and every glance from the pulpit was construed into a confession of devotion. She told all her friends of his undying love for her, and no doubt the vicar, hearing of it, was more embarrassed in meeting her, and this added to the confession of his attachment. The poor old vicar's life was a misery to him. But it did not end here. Insane suspicions began to arise; she believed the vicar had bribed the doctors to give her medicine which affected her sexual health, and she described to me how the drugs they gave her turned the lower part of her body green. Then the inevitable jealousy arose, and another woman became the object of her insane dislike. At last matters reached a climax. One Sunday in church she rose up and accused the other lady of trying to estrange the vicar's affections from her, and ended by chasing her rival around the aisles with the family umbrella. This was too much; she was certified next day and sent to an asylum. This all happened some years ago. The lady still has her delusions, although they have faded considerably and are less in evidence; still, they are there all the same. There is much moral perversion. The patient is a masturbator, and puts a meretricious construction on the most innocent actions of her friends. She has made self-indulgence a fine art, is indolent and selfish, yet withal deeply religious. These cases act as a warning that severe repression of the animal instincts often has baneful results. In the words of Horace, 'Naturam expellas furca tamen usque recurret.' Such women are social terrors. They bring grave accusations against innocent people, they are often dangerous through their insane suspicions, and the only treatment is to remove them once and for all from their old surroundings, and put them under proper care."

Strontium Bromide in Epilepsy.—Mr. Antony Roche, of Dublin, who has before written upon this subject, finds now (*Lancet*, April 22d), from numerous letters that he has received from members of the profession, that considerable interest has been excited, and that, while some of his correspondents have tried the system he has advocated with success, others apparently have failed to comprehend his former communications, or have expected results which he never suggested as possible. For example, he never supposed that the bromide of strontium would improve the mental condition of children suffering from fits in whom there was congenital malformation of the brain, or that it could benefit the mental faculties of persons who suffer from fits associated with advanced cerebral disease. The most to be expected in such cases from the bromide would be the lessening of the frequency of the attacks. Again, he never asserted, as some of his correspondents appear to think, that the bromide was invariably successful in all cases of even so-called idiopathic epilepsy, or that the drug had simply to be poured in without any other treatment or regulation of habits, diet, etc., to be successful. It is a very elementary consideration in the treatment of epilepsy, as indeed in that of all diseases, he remarks, that each individual case must be studied and treated; for success in the treatment given by one medical man, as compared with another, depends mostly upon the care and thoroughness with which it is carried out. For example, in each case of epilepsy beginning in adult life, whether any predisposing or exciting cause can be detected or not, infection by syphilis should always be borne in mind, and Jacksonian at-[illegible] should excite suspicion; even when the form is the ordinary one, syphilis may be the cause, as he knows from experience. In such cases he gives the iodide of strontium with the bromide. He finds the strontium iodide more efficient and less depressing than the potassium salt. For some years he has used strontium iodide not only in these cases, but also in rheumatism, asthma, etc., in place of the potassium iodide, and thinks it is more easily taken.

He has frequently given three drachms a day for weeks, and has never observed any symptoms of poisoning. The bromide rash is sometimes troublesome, but two minims and a half of liquor arsenicalis in each of the two doses will generally control it, and this can be continued for about six weeks and then omitted for a short period. It appears to Mr. Roche that the bromide rash is more troublesome in fair-haired people with thin skins than in dark, thick-skinned people. In addition to the bottle containing the regular daily doses, he orders another, called for convenience the intermediate. This contains twenty grains to each half ounce, and he directs the patient, should he have any aura, to take a tablespoonful of it every half hour until the sensation passes off. Most of his patients assure him they have thus averted the pending attacks. If the patient finds no inconvenience from the bromide except the rash, he should continue its use for an indefinite period. To the proposition to stop the medicine if there has been no return for a year the author does not agree. It is desirable in each case, he says, to find the smallest dose that will effect the purpose, and to continue it. There are just two precautions he would mention: Be careful that the medicine is pure and, secondly, be careful that the apothecary does not substitute the potassium salt for the strontium, if he does not happen to have the latter at hand.

Mr. Roche has never met with a case carefully investigated and persistently treated in which the number of the attacks was not materially diminished, and he has many cases in which there has been no return of the attacks at all, even after an interval of four years, the patients, of course, continuing the use of the medicine.

A "Noncombatant" in Action.—We are glad to quote from the *British Medical Journal* for June 17th the following: In his report of the recent action in Samoa, where both British and American naval officers were killed, Captain White, of the *Philadelphia,* speaks as follows concerning the conduct of Passed Assistant Surgeon G. A. Lung, United States Navy: "At times when the fire from the concealed natives was thickest, and at all times by his example, he encouraged the young and inexperienced men to the proper performance of their duty. On the completion of the work of his profession, he assumed command of our blue-jackets, and marched them to the United States consulate."

The Treatment of Salpingitis.—Mr. J. W. Taylor, F. R. C. S. (*British Medical Journal*, May 20th), at a recent meeting of the British Gynæcological Society, read a paper on this subject, in the course of which he laid down the following propositions: 1. That a large number of women who are suffering from tubal disease have been at some time or another exposed to the infection of syphilis as well as of gonorrhœa; that these undoubtedly show marked improvement after a prolonged course of mercury and iodides, and in the course of this treatment, unless acute pyosalpinx intervenes (in which case medicine is useless), it is the rule rather than the exception for all gross physical signs of disease to slowly and permanently disappear. 2. That many cases in which there is no history of syphilis, including cases in which there is the unmistakable history of gonorrhœa, pure and simple, as the sole cause and starting point of tubal disease, do similarly improve and get permanently well under the same course of treatment, provided always that the disease stops short of acute pyosalpinx and its dangerous complications. 3. That acute pyosalpinx is peculiarly liable to occur, in the first place, on the left side of the body, and its special severity is probably due to secondary infection from the rectum. That such cases, whenever possible, should be treated by free incision of the posterior vaginal fornix, by thorough exploration and emptying of all pus cavities from the pouch of Douglas, and by iodoform-gauze drainage. That this is far preferable to the older operation of removal of the appendages, which is not only much more dangerous, but is peculiarly liable to be followed by fæcal fistula, an operation sequel sometimes worse than death itself. 4. That such cases of mixed infection and acute suppuration, treated by operative evacuation of the pus, with or without removal of the appendages, do sometimes not only recover, but remain permanently well without further treatment, the acuteness of the inflammation appearing to terminate the process of infection. In other cases the recovery is not so complete, relapses are met with, and these cases should be followed up by a course of specific treatment, the beneficial result of this being often immediately manifest when the wound tissues are unhealthy and the healing is delayed. 5. That occlusion of the tubes and peritubal adhesions consequent on gonorrhœal salpingitis have no direct specific causation, and must be regarded rather as secondary mechanical results of the local peritonitis, which has been caused by salpingitis. Their absorption and disappearance will not therefore be secured by the cure of the gonorrhœa, and sterility may persist, although gonorrhœa may be entirely eradicated from the system. 6. That in gonorrhœa of the pelvis there will probably remain a residuum of intractable cases, particularly cases of complication with other diseases, such as fibroids of the uterus. That in these cases operative removal of the organs affected will still be required, and that vaginal hysterectomy, whenever possible, with or without removal of the appendages, is not only the most rational operation in theory, but is productive of the best final results.

The Expulsion of the Placenta after Childbirth.—Dr. R. G. Woodworth (*Denver Medical Times*, May) has used the following method with excellent results:

After the delivery of the child he notes for a few minutes the contraction and relaxation of the uterus. After a repetition of this for a few times, and when he feels quite certain that there exists no immediate danger from hæmorrhage, he begins the delivery of the placenta by *bimanual pressure*. To apply the pressure, take place beside the mother, press the finger tips down upon the abdomen (the right hand on the right side of womb, the left on the left) beneath the womb, so as almost completely to encircle the same by both hands, and then, not by pressing the womb down and backward against the spine, but by sustaining and supporting it, and, if need be, gently carrying it toward the vaginal outlet, begin to *squeeze* it, exerting firmer and firmer force until the appearance of the placenta and all coagula.

He is fully convinced that this is the ideal way. Pressure with one hand can accomplish nothing in a womb that is not able to take care of itself if sufficient time is allotted. Pressure with one hand has no sustaining power over the womb and only tends to drive it out of place. Pressure with traction on the cord simultaneously is a dangerous procedure, as the pressure is apt to be slight compared with the traction, and, as stated before, tends to displace the uterus. Traction exclusive of pressure is the most dangerous, as this is done with no reference to the contractions, and hence can only result in facilitating the occurrence of hæmorrhage. These methods are quite likely to be followed by retention of portions of the secundines, and to expose the mother to the additional danger of puerperal fever. Bimanual pressure not only secures safety against retention of any portion of placenta, but also accomplishes the expulsion of all coagula.

The Microscopical Condition in a Case of Intermenstrual Pain (Mittelschmerz).—Dr. Augustus Addinsell (*Transactions of the Obstetrical Society of London*, January and February), at a recent meeting of the society showed some microscopical sections, and gave a demonstration on the condition of the tube and ovary, removed by Mr. Bland Sutton for the relief of intermenstrual pain which had persisted for eight years. The pain had followed the birth of the last child; its chief characteristics were that it commenced twelve to fourteen days after the cessation of the period, was referred to the left ovarian region, increased in intensity for three days, and was usually but not always accompanied by the discharge of a clear watery fluid from the vagina. The uterus was acutely retroflexed, bound down by adhesions, and the left ovary was firmly impacted in the angle formed by the flexion. There was nothing of interest in the ovary, which was sclerosed and cystic. The tube was found to be closed at the abdominal end; the diameter of the lumen was somewhat increased. Microscopical examination failed to reveal either the gonococcus or tubercle bacillus. There was marked thinning of the walls, and evidence of œdema separating the muscle fibres. The ends of the plicæ were clubbed; small-celled infiltration was considerable in the connective- tissue stroma of the plicæ, and in the subepithelial connective tissue of the tube wall. The epithelial cells were in a condition of cloudy swelling; the cell walls were ill-defined and the nuclei undergoing alteration. Cell proliferation was very marked, and in many places there was a heaping up into clusters and bunches of epithelial cells. This was the first occasion upon which the pathological histology of the tube had been demonstrated in connection with intermenstrual pain. The closure of the uterine end, and also of the abdominal ostium, would convert the tube into a retention cyst and produce hydrosalpinx. In this case, however, the abdominal ostium alone being closed, the increased secretion of fluid, due to the marked proliferation of epithelial cells, would naturally pass in the direction of least resistance—namely, through the patent uterine end into the uterus, whence it would be expelled into the vagina.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of May 3, 1899.

The President, Dr. S. Alexander, in the Chair.

Otitis Media; Cerebral Abscess. — Dr. Charles Phelps reported a case of cerebral abscess having its origin in an otitis media. It was of interest because of certain points in the diagnosis. The patient was a young man of twenty-five years, who had had otitis media for a considerable time, but had been otherwise in good health. During a copious discharge of pus from the ear he had been taken very suddenly ill, and had lost consciousness almost immediately. He had seen this patient with his attending physician at Melrose, Dr. Henschel, and the diagnosis had been meningitis from infection through the petrous portion of the temporal bone. The mastoid cells and the sinuses had not seemed to be involved. After a time symptoms which were attributed to cerebral abscess developed. Among these was descending neuritis. Dr. Phelps trephined over the ear, and found nothing except that it was possible to establish a connection between the point of trephining and the auditory passages. There being no further guide to the situation of the abscess, operative measures were abandoned. The man lived for nearly four weeks. At the autopsy it was ascertained that there had been an acute purulent meningitis involving the lower surface of the cerebellum and the anterior surface of the pons, and extending into the spinal canal, and that the path of infection had apparently been through the chorioid plexus into the opposite lateral ventricle, namely, the left, which was filled with pus. The case seemed to him to be rather unusual from the fact that the infection had been through the roof of the petrous portion instead of through the mastoid region, and that the abscess had formed on the opposite side of the brain in the ventricle.

A Review of a Trial for Murder Involving a Study of Pistol-shot Wounds of the Head.—Dr. CHARLES PHELPS read a paper with this title.

Dr. REGINALD H. SAYRE said that the discrepancy regarding the statements made concerning the carbon deposit in the tissues might be explained by the fact that in the discharge of powder from short barrels the powder was not wholly consumed, and hence the carbon might be found in the tissues.

A Malignant Periosteal Tumor.—Dr. R. H. SAYRE exhibited a specimen of this kind that had been taken from a girl, thirteen years of age, who had been in good health up to last August. At that time she had fallen and injured the knee, and had been confined to bed for a few days in consequence. After a short time she had begun to suffer from pain in the knee. When first seen by him, in March of the present year, the knee was quite swollen, and from the general appearance of the child he suspected the growth to be malignant rather than tuberculous, but, on the supposition that it might possibly be tuberculous, an effort was made to save the joint. This failed, and ten days ago he had operated upon her. On cutting into the mass he had found a large bleeding tumor, and had consequently amputated at the hip joint by the Fourneaux-Jordan method. On opening the knee a large blood-clot was found in it. The growth had spread out quite suddenly from the cartilage, but had not involved it. He had controlled the hæmorrhage by Richards's artery compressor—a band passing across the pelvis and having a knob pressing down on the vessels and actuated by a screw.

Dr. W. R. TOWNSEND said that he had seen three or four cases of osteosarcoma of the lower end of the femur, and had been inclined at first to look upon the condition as tuberculous instead of malignant. He recalled one case which had been watched by others as well as by himself for nearly eight months before the tumor had developed to an appreciable size above the knee joint. In one of his cases there had been heat, swelling, sensitiveness, and pain, without any tumor above the knee, in the early stage, and in addition there had been some elevation of temperature, so that there had been every reason for supposing the case to be one of ordinary inflammatory joint disease.

Dr. PARKER SYMS spoke of a case in which he had had a similar experience regarding the diagnosis. The symptoms had all pointed to tuberculosis of the knee. There had been some elevation of temperature also. The diagnosis could only have been made by an exploratory operation.

Dr. SAYRE said that his patient had had a temperature between 99.5° and 101.5° F., and there had been local heat and distinct spots of tenderness. Consequently it had been taken to be a case of synovitis that had developed, but the subsequent history had shown that what had been supposed to be synovial fluid had really been a clot of blood. In this case the disturbance had been at first rather in the femur than in the joint, and this had led him to think that it might be a tuberculous focus which had not yet broken into the joint. In another case of osteosarcoma the tumor had developed shortly after pregnancy, and there had been a history such as one usually got in a case of septic synovitis of the knee. When he saw it, and operated, there was extensive malignant disease, but in spite of this the amputation was successful, for, five years later, the woman was reported to him as still alive and well.

Book Notices.

A Text-book of Anatomy. By American Authors. Edited by FREDERICK HENRY GERRISH, M. D., Professor of Anatomy in the Medical School of Maine, Bowdoin College. Illustrated with Nine Hundred and Fifty Engravings in Black and Colors. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. 5 to 917. [Price, $6.50.]

A NATURAL question arises in the mind when a new text-book appears on one of the well-founded sciences, "Why was it written?" An answer to the question in this instance is found in the preface: "The authors have long felt the need of a text-book which, while presenting the essential facts of human structure, judiciously avoids the unimportant and exceptional. They believe that the students in medical schools should neither be encouraged to depend upon pocket manuals nor be compelled to resort to encyclopædias."

The amount of condensation allowable in an anatomical text-book of course differs with the judgment of the individual. It should not be carried so far as to make the work a bare statement of facts, which are in any case dry enough to the average student.

There is also the danger of setting too low a standard for the student, since he is adaptable, and the more is required of him the more he will acquire.

Gerrish's anatomy strikes a very happy middle course; while in some things it is not so full as the larger anatomies, in others it most favorably compares with them and avoids prolixity.

The volume reminds one forcibly of the familiar Gray in regard to size of page, type, and arrangement of subjects.

The articles on the bones, joints, and veins have been written by Professor George Woolsey, of Cornell University Medical College; those on the peripheral nervous system, the eye, the nose, and the skin, by Professor W. Keiller, of the University of Texas; that on embryology, by Professor J. P. McMurrich, of the University of Michigan; that on the arteries, by Professor A. D. Bevan, of Rush Medical College, Chicago; that on the reproductive organs, by Professor G. D. Stewart, of the University and Bellevue Hospital Medical College; and the remainder by Professor Gerrish.

There is an introductory chapter on the elementary tissues, followed by a very excellent but brief chapter on human embryology. The articles on the bones and joints are the masterpieces of the book and surpass, in our opinion, those on the same subjects found in most other text-books.

A feature of the book is the illustrating of the article on the muscles. Every important muscle is outlined by itself in color on the outline of the skeleton, in addition to figures of the muscle groups which are taken from Testut.

We are sorry to see the schematic way of describing the relations of the arteries adopted; the old formula skin, superficial fascia, etc.

The description of the central nervous system is short but clear, and, although some things are omitted which it seems to us ought to have been included, is on the whole excellent.

The articles on the thoracic and abdominal cavities and their contents are too abbreviated. The description of the peritonæum is very short, and no student could understand it from its perusal. A concession is made in giving the names of some of the peritoneal ligaments, but a knowledge of these is not a knowledge of the peritonæum.

No mention is made of a second duct in the pancreas, the duct of Santorini; yet this has an important clinical bearing. A few errors appear, although slight, such, for instance, as the statement that the right bronchus is more horizontal than the left.

Passing over the articles on the generative and urinary organs, which are very good, we come to the chapter on relational anatomy, on which special stress is laid in the preface. We are unable to say that this chapter comes up to our expectations. It is divided into three parts, dealing respectively with plane sections, surface anatomy, and normal Röntgen pictures. Very little text is employed, entire reliance being placed on the figures.

The sections are modified from Braune, and in the thoracic region show a position for the œsophagus which is not generally accepted. We question the value of sections of the extremities for purposes of teaching; as a rule they do not convey much to the student's mind.

The chapter on surface anatomy consists entirely of figures from photographs with explanatory diagrams. The Röntgen pictures are very good, but their value is questionable.

The nomenclature used can hardly be said to conform to any fixed system. A number of the newer terms are employed, the synonyms also being given. We notice the terms *dorsal, posterior,* and *hind* used indiscriminately to designate the same relation. The term *hind* we think is new in this sense and even more ambiguous than *posterior,* inasmuch as it implies a caudal rather than a dorsal relation.

The illustrations throughout are very good. Most of the engravings are taken from Testut's *Traité de l'anatomie,* while numerous diagrams are inserted.

On the whole, the book is very pleasing and, considering its aim, namely, to be a middle ground between the more complete text-books and the compends, it is eminently successful.

The Nose and Throat and their Diseases. By Lennox Browne, F. R. C. S. E., Senior Surgeon to the Central London Throat, Nose, and Ear Hospital, etc. With Special Assistance as follows: Anatomy, by Mayo Collier, M. S., F. R. C. S.; Nervous Diseases, by James Cagney, M. D.; and Histopathology, by Wyatt Wingrave, M. R. C. S., Assistant Surgeon and Pathologist to the Central London Throat, Nose, and Ear Hospital. With Five Hundred and Fifty Illustrations in Color, mostly Designed and Executed by the Author. Fifth Edition, revised and rewritten. London: Baillière, Tindall, and Cox. Philadelphia: J. B. Lippincott Company, 1899. Pp. xxxi–967.

Without wishing to detract in the least from the reputation of any one else in this special field of literature, it may safely be said that since the death of Sir Morell Mackenzie Mr. Lennox Browne has been a foremost representative of English specialism in diseases of the nose and throat. His many years of laborious work at the Central London Hospital and his valuable contributions to the literature of his chosen field have gained for him an enduring reputation in this department of medical science. His life work is epitomized in the fine volume now presented to the profession. While it is confessedly designed for the general practitioner, it will find its most generous and discriminating critics among the author's colleagues the world over.

The first three chapters are devoted to the anatomy and physiology of the larynx, pharynx, and nose. Next come chapters on methods of examination, general semeiology, and therapeutics. It is agreeable to note the prominence given under the latter head to hygienic and dietetic measures. Then are taken up in logical order the various diseases of the areas under consideration. Special mention may be made of that portion covering the subject of bacteriological ætiology. Under diseases of the larynx is included a chapter on diphtheria of which mention is made below. The closing chapter is entitled Aural Maladies associated with Nasopharyngeal Diseases. Finally come an elaborate formulary for remedies, fifteen colored plates, indexes, etc.

Space does not permit us to do more than allude to but a few of the many interesting questions which Mr. Lennox Browne discusses. No man can have done the vast amount of work he has without his records containing much that is invaluable with reference to the practical management of disease. Moreover, the author brings to his task the experience of years of general work in medicine and surgery. All the more worthy of the most careful consideration, therefore, are his special studies laid down on this broad foundation.

Mention may be made, however, of one or two topics. The author considers it incumbent on us to consider seriously the necessity of a new classification of tonsillar inflammations. We must abolish the classification based solely on the clinical aspects of the disease. The efforts of some authorities to harmonize the bacteriological with the histological evidence as a basis for classification are too complicated for practical application. Efforts to make the basis purely a bacteriological one have not thus far been convincing, from the facts that all mouths contain streptococci and that in disease more than one organism is almost invariably present. No solution of the problem is offered, the author agreeing that it must be left to the future.

The chapter on diphtheria will be read with much interest. It is a concise exposition of the subject and for clinical purposes covers all points fully. The author's views on antitoxine may seem to American readers a bit strange. His attitude toward antitoxine is not by any means one of absolute opposition, but he does not share the enthusiasm of most of the American writers on pædiatrics. He does not consider that statistics have thus far proved the positive value of this new remedy.

No allusion is made in the text to the noteworthy collective investigations of the American Pædiatric Society, which in this country at least have gone so far toward overcoming opposition. In common with some other writers on diphtheria, the author believes that the major share of the advantage of the serum treatment lies in the dynamic properties of the blood serum itself rather than in its antitoxine constituent.

The chapter on laryngeal tuberculosis is complete and well illustrated. Adherence is given to the surgical methods of Krause and Heryng, which in the author's hands have led to some brilliant results.

Under the heading of malignant neoplasms of the larynx, Mr. Browne deprecates the attempt at removal by means of endolaryngeal intervention of an undoubted sarcomatous or epitheliomatous growth *per vias naturales*, and he does not approve of the use of the galvano-cautery below the level of the epiglottis. Concerning laryngectomy, partial and complete, he occupies a middle position, realizing that statistics are continually showing improvement, but feeling that greater discrimination should be exercised in the selection of cases for operation.

Concerning the general make-up of the work little need be said. It is in every way a model volume. The colored illustrations of the pathological conditions which are so freely scattered through the text are clear and distinct. The large plates in the back of the volume have been drawn from life by the author himself. They are double-paged, the left side being left blank so that when they are unfolded the entire plate is open to the reader's eye and he is not obliged to keep turning from text to plate. It is a pity that this simple but effectual device is not followed in all works of this kind. The book has a flexible back, so that it easily lies open on the desk.

Finally, it can not but be pleasing to the American colleagues of Mr. Browne to note that throughout the entire volume, from preface to index, their work receives at his hand the most generous recognition and unstinted praise.

On Cardiac Failure and its Treatment. With Especial Reference to the Use of Baths and Exercises. By Alexander Morison, M. D. Edin., F. R. C. P. Ed., Physician to the Saint Marylebone General Dispensary, etc. London: The Rebman Publishing Company, Ltd., 1898. Pp. xx–256.

"When I was asked to write a book upon the balneological and gymnastic treatment of heart disease," says the author, in the preface, "I suggested to the publishers that a wider scope should be given to the work, in order that the place and influence of these measures might be determined by some consideration of the character and general treatment of the conditions they were designed to rectify. To this they readily assented, with the result that I have written the sections which precede an account of the measures in question."

The sections alluded to are indeed an admirable addition, and it is difficult to see how a proper understanding of the treatment by bathing and exercise can be had without the introduction thus provided. That the physical examination of the heart, which subject occupies the first three chapters, is no novelty is true, but the propriety of the inclusion is self-evident, and as Dr. Morison presents it is worthy of thoughtful study. The fourth and fifth chapters discuss the extracardiac signs and symptoms of a failing heart. Then are ably considered the factors that operate in cardiac disease to determine the treatment and the outcome, and these are sufficiently well described by the adjectives neuromuscular and hæmic. A brief chapter presents the "general" treatment of cardiac failure, by which is meant the ordinarily employed drug and hygienic means, and then we are introduced to the essence of the book, which may best be described as a careful and able examination and presentation of what is known as the Nauheim treatment.

Too much can scarcely be said in favor of this treatise. The author has studied carefully and thought clearly, and has made every effort to be thorough and just. His conclusions may not invariably meet with agreement, but he is far from intolerant in their formation, and, indeed, as everybody knows, the rationale of the Nauheim treatment is scarcely susceptible of complete solution. The author has observed the treatment at Nauheim and has been afforded every opportunity for its study both by Schott and by Heineman. He has used the methods of the "Kur" in practice at home, and his presentation of the subject is therefore doubly valuable and interesting to us. That the treatment is of great value few will deny, but it is unfortunate that it should not be better understood by Americans. Latterly there has indeed been an awakening of interest in Nauheim, and we can think of no work better calculated to further this interest and to satisfy the reader than this one.

The titular name, *Cardiac Failure*, is incontestably correct, but conveys rather the idea of syncope than of a "failing" heart or a failing compensation, which after all is the thought that is intended. In this way the title might perhaps be misunderstood.

An admirable summary of the treatment is given by Dr. Groedel, of Bad Nauheim, in a brief appendix.

A Review of Recent Legal Decisions affecting Physicians, Dentists, Druggists, and the Public Health. Together with a Brief for the Prosecution of Unlicensed Practitioners of Medicine, Dentistry, or Pharmacy, with a Paper upon Manslaughter, Christian Science and the Law, and Other Matter. By W. A. Purrington, of the New York Bar, Counsel of the Dental Society of the State of New York, etc. New York: E. B. Treat & Co., 1899. Pp. 3 to 105. [Price, 50 cents.]

The character and scope of this little book are sufficiently described in its title, and for the rest it remains only to say that it is an admirable condensation and presentation of recent medico-legal decisions. To the physician and the lawyer alike it will be of interest and no doubt of service. It is to be hoped that there may be further issues of the work as material accumulates.

Railway Surgery. A Handbook on the Management of Injuries. By Clinton B. Herrick, M. D., Attending Surgeon to the Troy Hospital and the House of the Good Shepherd, etc. Profusely illustrated by Numerous Original Engravings. New York: William Wood & Co., 1899. Pp. xiii–265.

Railway surgery is to some extent a specialty in the eyes of many members of the medical profession in this country; it has its own societies and its own periodicals. It is not to be doubted, therefore, that Dr. Herrick's work will find many interested readers. If we find it somewhat disappointing, it is largely owing to the fact that the profusion of its illustrations encroaches upon the text rather unduly.

The Treatment of Disease by Physical Methods. By THOMAS STRETCH DOWSE, M. D. Abd., F. R. C. P. Edin., Physician to the North London Hospital for Consumption and Diseases of the Chest, etc. New York: E. B. Treat & Co., 1899. Pp. xii–412. [Price, $2.75.]

IT should be explained that this volume is a new and amplified edition of Dr. Dowse's well-known work, *Lectures on Massage and Electricity in the Treatment of Disease.* The reason for the change of title is not apparent to us, for the one formerly used was admirably descriptive. Of the new work it suffices to say that in it the subjects of massage and medical electricity are well and thoroughly presented. The work of the publisher, we regret to say, is crude.

Das Weib in seiner geschlechtlichen Eigenart. Nach einem in Göttingen gehaltenen Vortrage. Von Dr. MAX RUNGE, ord. Professor der Geburtshülfe u. Gynäkologie, etc. Dritte neubearbeitete Auflage. Berlin: Julius Springer, 1898. Pp. iv–39.

THE author of this little pamphlet has endeavored to explain the position of woman in the past and to prophesy her position in the future by invoking the well-known laws of physiology and anatomy to assist him. In doing so he may have been able to come to a very satisfactory judgment from a masculine point of view, but has laid himself open to the accusation from the feminine side of a lack of gallantry, and, furthermore, to the charge that his writings on the subject are somewhat fanciful. The substance of his contention is that women are best in their homes and are not suited for an active public life.

BOOKS, ETC., RECEIVED.

Clinical Diagnosis: The Bacteriological, Chemical, and Microscopical Evidence of Disease. By Dr. Rudolf v. Jaksch, Professor of Special Pathology and Therapeutics, and Director of the Medical Clinic in the German University of Prague. Specially revised and enlarged by the Author from the Third English Edition of the Translation by James Cagney, M. A., M. D. Fourth Edition. With Numerous Illustrations (partly in Colors). London: Charles Griffin & Co., Limited. Philadelphia: J. B. Lippincott Company, 1899. Pp. xxv–535.

On Fractures and Dislocations. By Professor Dr. H. Helferich, of Greifswald. Illustrated with Sixty-eight Plates and One Hundred and Twenty-six Figures in the Text, drawn by B. Keilitz. Translated from the Third Edition by J. Hutchinson, Jr., F. R. C. S., Surgeon to the London Hospital. New York: William Wood & Co., 1899. Pp. 130. [Price, $3.]

Syphilitic Diseases of the Spinal Cord. By R. T. Williamson, M. D. Lond., M. R. C. P., Medical Registrar, Manchester Royal Infirmary, etc. With Illustrations and Four Colored Plates. Manchester: Sherratt & Hughes, 1899. Pp. 127.

Shall we Drink Wine? A Physician's Study of the Alcohol Question. By Dr. Jno. Madden, Professor of Physiology in the Wisconsin College of Physicians and Surgeons. Milwaukee: Owen & Weihbrecht Company, 1899. Pp. 9 to 220.

Anæmia and Some of the Diseases of the Blood-forming Organs and Ductless Glands. By Byrom Bramwell, M. D., F. R. C. P. Ed., F. R. S. Ed., Physician to the Royal Infirmary, Edinburgh, etc. Edinburgh: Oliver and Boyd. London: Simpkin, Marshall, and Co., Limited, 1899. Pp. 450. [Price, 12*s.* 6*d.*]

Hay Fever and its Successful Treatment. By W. C. Hollopeter, A. M., M. D., Clinical Professor of Pædiatrics in the Medico-chirurgical College of Philadelphia, etc. Second Edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. viii–9 to 151. [Price, $1.]

Alaska and the Klondike. A Journey to the New Eldorado, with Hints to the Traveler, and Observations on the Physical History and Geology of the Gold Regions, the Condition of and Methods of Working the Klondike Placers, and the Laws Governing and Regulating Mining in the Northwest Territory of Canada. By Angelo Heilprin, F. R. G. S., F. G. S. A., Professor of Geology at the Academy of Natural Sciences, of Philadelphia, etc. Fully illustrated from Photographs and with a New Map of the Gold Regions. New York: D. Appleton and Company, 1899. Pp. x–315.

Yearbook of the United States Department of Agriculture, 1898.

The Transactions of the Medical Society of the State of California. Twenty-ninth Annual Session, Monterey, April, 1899. Volume XXIX.

Annual Report of the British Hospital. For the Year 1898. Presented at the General Meeting on Friday, April 28th, at Prince George's Hall, Cuyo, Buenos Aires.

Recollections and Reflections of a Quarter of a Century. By Stephen Smith Burt, M. D. [Reprinted from the *Post-graduate.*]

A Report of a Case of Acute Nephritis in an Infant. By G. A. Himmelsbach, M. D., of Buffalo. [Reprinted from the *Buffalo Medical Journal.*]

Surgical Interference in Appendicitis. By Julius Rosenstirn, M. D., of San Francisco. [Reprinted from the *Pacific Record of Medicine.*]

Some Misapprehensions as to the Simplified Nomenclature of Anatomy. By Burt G. Wilder. [Reprinted from the *Proceedings of the Association of American Anatomists.*]

Les indications opératoires de l'appendicite. Par J. Rosenstirn (de San Francisco). [Tiré à part des *Archives provinciales de chirurgie.*].

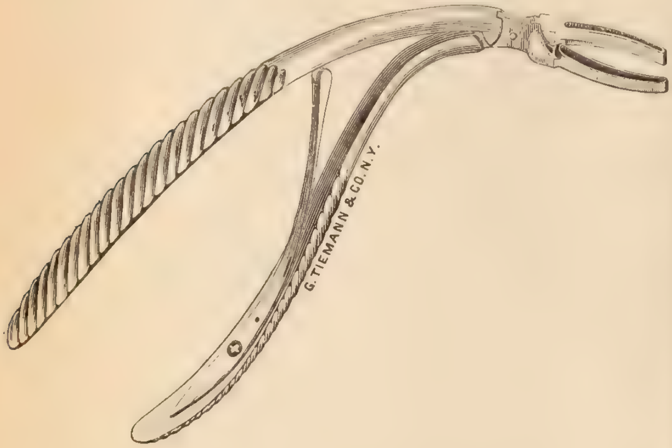
Estudio sobre San Salvador desde el Punto de Vista Médico. Disertación Leída en el Salón de Actos Públicos de la Universidad. Por Isidro B. Juárez.

New Inventions, etc.

A NASAL ENCHONDROMATOME.

By HERMAN L. ARMSTRONG, M. D.,
BROOKLYN.

THE instrument—a cut of which is here given—will, I think, doubtless prove a valuable addition to the armamentarium of surgeons who are operating frequently within the nasal lumen for the restoration of the normal function of the nose. Especially will this instrument prove valuable in those cases where it is necessary to put the patient under general anæsthesia. The nasal saw is recognized by rhinologists as a very satisfactory instrument for the removal of small spurs from the sæptum under a local anæsthetic, but it is hardly to be relied upon under general anæsthesia. The wire snare has been the chief instrument for the removal of a persistent hypertrophic turbinated, either bony or of the soft parts. The objection to the snare is that, if made to engage at all, it usually removes the entire turbinated body, which is a thing very much to be deplored, as the physiological function of the nasal respiratory tract is thereby almost wholly destroyed. In general stenosis due to hypertrophy of turbinates, with exostosic and enchondromatous spurs and growth, this instrument will enable the surgeon not only to perform the necessary operation with dispatch, but will insure a good nasal lumen to the patient, and will not in any way destroy his nasal functions by the removal of more tissue than was intended by the surgeon. This instrument is manufactured by George Tiemann & Co., which is a guarantee that it is accurately adjusted, tempered, etc.



777 De Kalb Avenue.

Miscellany.

The Treatment of Fibrous Stricture of the Rectum.—Dr. W. H. Horrocks (*British Medical Journal*, June 3d) says that the usual treatment by passing bougies is very painful and affords only temporary relief. Forcible dilatation is a dangerous and unscientific method. It is dangerous because the stricture yields at its weakest part, which may lead to laceration and infection of the peritonæum. It is unscientific, as the tear, when healed, leaves the patient in much the same condition as before the operation.

He then records one or two cases treated very successfully by a vertical division at the part most removed from the peritonæum. The vertical is converted into a transverse slit, and the margins stitched together. To do this, the stricture must be within reach, and it is an advantage if the mucous membrane above the strictured part is loose and healthy.

He says: The simplicity of this method, which is an application of the operation of pyloroplasty to rectal strictures, is a great advantage in treating suitable cases. There seems no reason to doubt the permanency of the cure.

Climate in the Treatment of Tuberculosis.—Sir Hermann Weber (*British Medical Journal*, June 3d), in a paper read before the International Tuberculosis Congress in Berlin, says that ocean voyages are not rarely recommended because the following characteristics are attributed to them: (1) Purity of the air; (2) slight range of temperature; (3) abundance of light; (4) constant movement of the air; and (5) mental rest. However, if one examines the conditions of an ocean voyage more exactly, one finds that these advantages are not always completely presented. For instance, the purity of the air is limited almost entirely to the deck, and is generally wanting in the sleeping cabins and the saloons; the pleasant movement of the air is often transformed into a violent storm, while in the zones of calm the reverse is the case; the temperature does not vary much from day to day, but on a long sea voyage the oppressive heat of the tropics has to be supported. Hence the treatment of a serious illness on a sea voyage is rendered difficult by the bad air of the small cabins. In respect of the choice between different voyages, he mentions that, to obtain the full effect, one of the longer voyages must be selected, one which lasts about six to sixteen weeks, without including the time spent on land between the voyage out and the voyage home. The best for patients are the voyages to Australia and New Zealand around the Cape of Good Hope (not Cape Horn, on account of the great cold), and that to the Cape of Good Hope itself, which in suitable cases may be combined with a stay of several months on the highlands of South Africa.

Of his observations on the influence of sea voyages in pulmonary tuberculosis, which lasted from six weeks to seven months, he notes in seventy cases there were thirty-four showing improvement, eighteen showing little change, and eighteen showing deterioration. The great majority of the cases were in the first or commencement of the second stage; only seven were in the third stage.

From what he has observed he would give it as his opinion that sea voyages can do good service in a certain number of tuberculous cases, but that in most such cases other climatic and hygienic methods of treatment exercise at least just as good an influence. If, however, persons of strong constitution, who like sea voyages, develop phthisis under the influence of overwork or mental worry, long sea voyages are to be preferred to all other methods of treatment. A decided advantage of sea voyages is that patients are much more protected from excesses than at many well-known health resorts. Permanent weakness of constitution, very decided tendency to seasickness, unalterable dislike of monotonous diet constitute contraindications.

It would be an advantage, he says, if there were well-arranged medical ships, a kind of "sea sanatoria," both for long voyages and for short ones—for instance, in the Mediterranean and to the West Indies during winter, and in the North Sea during summer; but this would be hard to arrange without great cost to the patients. Sea voyages can be recommended for prophylactic use against scrofula and also against tuberculosis. Among sailors and seafaring persons there is less phthisis than among soldiers of the same age on land. Out of eighteen boys of very tuberculous families, whom the author advised to enter the navy, only two became consumptive, whereas among their brothers and sisters who chose learned, mercantile, or sedentary occupations, the number of deaths from phthisis was at least three times as great.

The author gives the following brief indications for the use of different climates in different cases of tuberculosis: 1. First of all, we must be clear as to whether we have to do with a strong or a weak constitution. If the patient belongs to a long-lived family, we may suppose that he possesses a strong constitution, even if other members of his family have died of tubercuolsis. If he belongs to a short-lived family, we generally have to deal with an originally weak constitution, even if no member of his family has died of tuberculosis. Another hereditary tendency, which points to a considerable power of resistance, is that toward gout, which to a certain extent is antagonistic to tuberculosis. Further, those persons who from youth up always feel better, are more energetic, can eat better, and put on weight in warm weather, but in cold weather become less capable of work, generally belong to the class of weak constitutions, whereas those who have always done better in the cold possess stronger constitutions. Patients who from childhood onward have always had high fever with every slight illness, and have recovered with difficulty, and who always have moist hands, must generally be reckoned among the weak, erethic constitutions —a conclusion which is mostly confirmed by the color of the skin and mucous membranes, the general appearance, and the weak and irritable action of the heart. If we have come to the conclusion that the patient has a weak constitution, we must be guarded in recommending great altitudes and long sea voyages, and give the preference to warm, sunny, and sheltered places. On the other hand, in strong, somewhat torpid constitutions mountain climates are to be preferred, and occasionally also long sea voyages. In these cases one can do much by keeping them continuously in the open air, by good feeding, and by regulated exercise.

In regard to the following indications the constitution has always to be considered:

2. In cases with limited disease at one or both apices, without or with an only slight amount of fever, nearly all climates can be made use of, but especially great altitudes and sea voyages if the constitution is a strong one.

3. Cases with limited local disease and high fever must be at first treated in their houses or in the neighborhood of their homes.

4. Cases with extensive disease of one lung or of both lungs, without fever or with only slight fever, are more difficult to advise. In the majority of these cases treatment at an only moderate elevation, or at warm seaside localities, deserves the preference.

5. In advanced disease with fever, long journeys should be avoided, and, if possible, neighboring sheltered health resorts, together with careful supervision, should be recommended.

6. In progressive tuberculosis with scattered foci in both lungs and much fever, sheltered localities near the patient's home, or the home itself, are probably the best places.

7. In cases of chronic, slowly progressive phthisis the author has seen, on the whole, better results from warm winter resorts, and sometimes from sea voyages.

8. Quiescent cases with extensive damage or cicatrization are generally better off at only slight elevations.

9. Cases with albuminuria without fever should avoid great altitudes, and select dry places.

10. The complication of moderate diabetes does not exclude the use of great altitudes, but the latter are injurious in cases with advanced diabetes and emaciation. Similarly, great altitudes should be avoided in cases where the tuberculosis is secondary and the diabetes the primary affection.

11. Chronic cases with much catarrh require places with as little wind as possible, but in the case of young persons places of great elevation with little wind need not be excluded, and are often even to be preferred.

12. Great altitudes are contraindicated in chronic cases with extensive emphysema; these cases require warm winter resorts or places with pine woods.

13. When asthma is a complication, in persons whose idiosyncrasies in regard to localities are unknown, no certainty in the choice of climates is possible; but in the majority of relatively young persons great elevations should be preferred, while in older persons moderately warm localities at only slight elevations should be selected or places amid pine woods.

14. In all climates for the treatment of tuberculosis selection of the dwelling house is of great importance; it should get much sun, should be sheltered from winds and free from dust, and should be built on dry ground; it should be removed from stagnant water and swamps, and from the impure air of factories and similar drawbacks.

15. For the prevention of scrofula and tuberculosis all healthy climates can be used, as long as a good diet and plenty of time in the open air can be obtained; but great altitudes and marine climates have advantages—the former rather against pulmonary tuberculosis, the latter (including sea voyages) more against scrofula.

16. The cure of tuberculosis during the early stages is possible in all healthy climates; some climates, however, have advantages for various cases over the other climates; for instance, notably those of great altitude. But climate by itself without careful medical supervision is generally insufficient. The patient's blind reliance on the climate often leads to errors, to aggravation of the disease, and to death. For the majority of patients, therefore, treatment in sanatoria should be preferred, but for the treatment of the poor it is a necessity. The erection of numerous sanatoria for the people is therefore a national requirement for the cure, the prevention, and extermination of tuberculosis.

The Toothache of Hunger.—*Practical Medicine* for June, quoting the *Maryland Medical Journal*, says that in some persons hunger will excite markedly disagreeable sensations in the teeth. A case is published of a gentleman who, while convalescing from typhoid fever, was seriously annoyed by painful sensations in two of his molars whenever he became hungry. The pain was sufficient to rouse him from sleep, and could not be allayed except by the introduction of food into the stomach, when instant relief followed.

A Hospital's Responsibility for a Nurse's Negligence.—The *Dominion Medical Monthly* for June states that some time ago a woman went to a Canadian hospital to have an operation performed. She was put under ether, and when she regained consciousness after the operation she complained of pain in one leg. It was found that a hot-water bottle was lying on the leg and had caused injuries which, it was asserted, resulted in permanent disability. The patient sued the hospital for thirty thousand dollars damages. At the trial term the complaint was dismissed, the judge affirming that the hospital authorities could not be held responsible. The case was appealed, and now the appellate division has handed down a decision that the hospital can not escape responsibility in that way, and a new trial has been ordered.

Schoolgirls and Corsets.—According to the *Dominion Medical Monthly* for June, the Saxon Minister of Education has recently issued a decree forbidding girls attending public schools in Dresden to wear corsets.

Newspaper Ethics. — The *Cleveland Journal of Medicine* for June says that W. A. France, one of the notorious advertising irregular " doctors " of Columbus, was arrested on a charge of practising medicine without first securing a license from the State board. The board was successful in obtaining a conviction on May 8th, and a fine was imposed of two hundred dollars. The newspapers of Columbus, says the *Journal*, having been paid large sums by the said France for advertising, refused point-blank to publish the fact of the trial and conviction. As the *Journal* comments, this is a fine commentary indeed upon the morality of the daily press. The item was not sent out by the Associated Press. Nothing could better demonstrate the power of money to buy the newspapers, or the hold which the quacks have upon the editors and publishers of lay journals.

Decline of the Plague in India.—According to recent issues of Indian medical journals, there is a progressive decline in the mortality from plague. The *Indian Medical Record* for May 31st reports a steady decrease in Bombay, and says that the figures justify a hope that Bombay will soon see the last of its third great plague epidemic. In Calcutta the *Record* says that the death-rate from plague for the week ending May 18th was fifty-six below the normal.

The " Couvade " and Prolonged Rest after Accouchement.—Dr. F. Monin (*Journal des sciences médicales de Lille*, May 27th), in support of his argument that a prolonged rest in bed after confinement is unnecessary, cites incidentally the curious custom of the " couvade," said to be prevalent in Corsica. He quotes Diodorus Siculus as saying, " In Corsica it is the husband who takes to his bed, while the newly confined mother busies herself with the household duties." Witowski (*Histoire des accouchements chez tous les peuples*, folio 336), he says, describes this custom as existing in the Indies, in both Americas, in Spain, and in the south of France. The following lines are translated from the *Luciniade:*

" In France yet again, and among the Béarnais
And the country of Navarre, when a woman is confined
The wife it is gets up, while the husband goes to bed."

The Earth Odor.—The characteristic odor of overturned earth, according to Clarke Nuttall (*Knowledge*; *Gazzetta degli ospedali e delle cliniche*, May 18th), is due to a micro-organism, the *Cladothrix odorifera*, which he has isolated and found to produce a substance with this characteristic earth odor during its culture.

The Advancement of the African Race.—A public meeting was announced to be held on Thursday evening, July 6th, at Mount Olivet Church, on behalf of the enterprise initiated by Dr. J. Albert Thorne, a colored graduate of Edinburgh University, for the temporal and spiritual advancement of the African race. The list of supporters contained many medical men, among whom may be mentioned Dr. Frank Hartley, Dr. E. D. Fisher, Dr. F. Ferguson, and Dr. W. L. Stowell. Dr. Thorne proposes to leave for Africa and labor among the people of his own race.

The Attendance at the Columbus Meeting of the American Medical Association.—According to the *Columbus Medical Journal* for June 13th, exactly 1,737 delegates registered for the Columbus meeting of the association. It is believed that fully five hundred other physicians were in the city who did not register. Counting the visiting ladies, physicians not members, and exhibitors, it is believed that thirty-five hundred people were in the city in attendance at the different sessions of the association.

Self-inflicted Injuries Diagnosticated by the Röntgen Rays.—The Berlin special correspondent of the *Lancet* says in its issue for June 17th that a fresh proof of the practical utility of the Röntgen rays has been supplied by a case published by Oberstabsarzt Dr. Baehren, of Wiesbaden. A soldier who alleged that he had been bitten by a horse was admitted into the military hospital with a swelling of the third finger, especially marked at the tip and extending to the back of the hand. A sinus developed after several weeks in the neighborhood of the joint between the first phalanx and the metacarpal bone, and the introduction of a probe showed the bone to be denuded of periosteum. The sinus healed up after being laid open and cauterized, but the swelling continued and the mobility of the finger was impaired. An examination of the hand by the Röntgen rays resulted in the discovery of five needles in the second and third interosseous spaces of the metacarpus. There was also a small, scarcely visible, sinus in the fold between the second and third fingers. On the following day the skiagraphic examination showed only four needles, the man having extracted one of them through the sinus. All the needles were removed by a large incision and the hand became quite normal. The man at first pretended that he did not know how the needles had come into his hand, but he afterward admitted that he had introduced them because the hand was painful and he expected relief from the escape of blood. He had evidently inflicted these injuries on himself in order to obtain his discharge from military service, not foreseeing that by the aid of the X rays his imposture would be detected.

The Thirteenth International Congress of Medicine.—We learn from the *Lancet* for June 17th that Sir William MacCormac has been elected an honorary president of the Thirteenth International Congress of Medicine to be held in Paris from August 2 to August 9, 1900.

The Canadian Medical Association will hold its annual meeting in Toronto on August 30th and 31st and September 1st.

A Woman Professor of Comparative Anatomy.—The *Gazzetta degli ospedali e delle cliniche* for May 16th announces the appointment of Miss Rina Monti to the chair of comparative anatomy in the University of Pavia.

THE NEW YORK MEDICAL JOURNAL, July 15, 1899.

Original Communications.

THE NATURE OF THE XANTHOMATA.*

By S. POLLITZER, A. M., M. D.

Much as has been written on xanthoma, it must be admitted that our knowledge of the subject is greatly deficient. In fact, hardly any two authors seem to hold precisely the same views, not only on the pathology of the disease, but even on the nature of the anatomical changes underlying the process. For some the xanthoma cell is a modified connective-tissue cell; for others it is of endothelial origin; while still others regard it as a heterotopic fat cell. From a clinical point of view, too, there is no less diversity of opinion; while some regard the plane, the tuberose, and the diabetic forms as identical processes, others place diabetic xanthoma in a class by itself. Since Addison and Gull, in 1850, on finding the plane palpebral and the nodular forms associated in the same individual, classified them as simply different forms of the same pathological process, it has occurred to no one to question the correctness of their assumption. This is the more remarkable when one considers the very manifest clinical differences between xanthoma of the eyelids and generalized xanthoma. The nodules of generalized xanthoma are firm, round, elevated papules; the patches of eyelid xanthoma are hardly, if at all, raised above the level of the skin, and to the touch are not to be distinguished from the soft neighboring tissues. Eyelid xanthoma, once established, remains without change through life. generalized xanthoma is always of limited duration. I am aware that this last statement is not in accord with the generally accepted belief. All are agreed, however, on the temporary character of xanthoma diabeticorum, and though common multiple xanthoma is of much longer duration than the diabetic, it also differs from eyelid xanthoma in that it ultimately disappears. I shall recur to this point later. Eyelid xanthoma is quite a common disease; multiple xanthoma is very rare. Probably every case of multiple xanthoma in civilized countries is seen by a physician; while the cases of eyelid xanthoma, especially in men, rarely come to our consulting rooms, though we meet them often enough incidentally. It is probably well within the limits to estimate the proportion of eyelid to generalized xanthoma as a hundred to one. If the eyelids were in such a preponderating degree the seat of predilection for xanthoma one would expect in every case of generalized xanthoma to find it *a fortiori* on the lids; but, as a matter of fact, in only a few of the cases of xanthoma multiplex have there been lesions on the eyelids, and in many of these the eyelid lesions have had a distinctly nodular character unlike that of common xanthoma palpebrarum. On these clinical grounds alone I should feel inclined to regard xanthoma of the eyelids and generalized xanthoma as wholly distinct diseases.

As to the clinical relations of xanthoma diabeticorum and xanthoma multiplex, I share the view of Besnier and others that the two processes are identical. The lesions themselves are in all respects identical, except that the papules in the diabetic form rest on an erythematous base. But even this difference is not constant, as I pointed out four years ago in a published note on a case of multiple xanthoma,* in which a patch of nodules about the knees had a distinct erythematous flush. Diabetic xanthoma commonly undergoes involution after a brief period, therein differing from nondiabetic multiple xanthoma, but this difference is merely one of degree. In one of the first cases recorded (Addison and Gull †) it was noted that the lesions were rather less prominent a year after their appearance. Several cases of more or less complete disappearance of the nodules have since been recorded. My own case is of interest in this connection, and I may be permitted here to add an appendix to the notes published four years ago.

I saw the patient in July, 1891. His disease had appeared about four years before that time. The nodules were scattered over the soles, over the outer border of the feet, and over the tendo Achillis. There was an extensive group on the front of each knee, another on the back in the lower lumbar region, another around each olecranon, while on the hands there were several small groups and isolated nodules. I saw the man again in November, 1896, five years after my previous examination and nine years after the appearance of the disease. He informed me that the lesions began to disappear soon after I saw him, and that all except a small group on the right thumb and on the left great toe had entirely disappeared within three years—that is, after an extreme duration of seven years. During the past two years he has had several attacks of biliary colic. Last August there was a recurrence of about a dozen nodules on the arms and a few on the knees, near but not on the site of previous nodules. The nodules on the thumb and great toe, which had persisted since the beginning of the disease, had undergone a notable change. They were not half so prominent as when I had seen them six years ago and had lost their peculiar yellow color. They appeared as firm, round, slightly elevated nodules, indistinguishable in color from the surrounding skin.

While on the subject of the duration of xanthoma multiplex, I should like to ask whether any one of the distinguished dermatologists here present has ever seen a case of generalized xanthoma that has persisted for more than fifteen or twenty years. The eyelid xanthomatics carry their lesions to the grave. What becomes of our cases of multiple xanthoma? I believe that my case is typical; that if the patient is not carried off by some intercurrent disease the nodules of xanthoma ultimately disappear.

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* Read before the American Dermatological Association, May 5, 1897.

* *British Journal of Dermatology*, 1893.

† *Guy's Hospital Reports*, 1850, case of Eliza Parachute.

Finally, as to the value of glycosuria in differentiating the two forms of xanthoma, there is a fair number of cases recorded in which there was no sugar in the urine, though the lesions presented all the characters of the diabetic form.* On clinical grounds, therefore, we may conclude that there is no sufficient basis for a complete separation of the xanthoma diabeticorum from the common xanthoma multiplex. These conclusions, derived from clinical considerations, are, we shall presently see, entirely corroborated by the results of the histological examination.

In reviewing the histological work done by previous investigators, the great divergence in the structure described by different writers as xanthoma can not fail to impress itself upon us. It needs but a glance at such pictures as those presented by Waldeyer, Virchow, Lentzen and Knauss, and Touton to show that they were dealing either with entirely different pathological processes or, at least, with vastly different stages of the same process. In view of this consideration I resolved not to be content with the examination of one or two specimens, but to compare sections from as many cases as it was possible for me to obtain. The material that I have examined includes a total of thirteen cases of the various kinds of so-called xanthoma.

Five of these were xanthoma planum palpebrarum. For sections of two of these cases I am indebted to Dr. George T. Elliot; one I received from Dr. Louis Heitzmann; one specimen from the upper lid was excised for me by Dr. Emil Gruening; and one from the lower lid by Dr. Martin W. Ware. The two latter were typical examples of xanthoma localized on the eyelids. The plaques were of comparatively recent origin and appeared to be still growing. The specimens were carefully fixed in formalin, sublimate, or Flemming's solution, and afforded ample material for the most detailed studies. The cases of xanthoma tuberosum multiplex include nodules from my own case referred to above fixed in alcohol or in Flemming; several dozen sections from Dr. Morrow's case, a clinical account of which has been published;* a few sections from Dr. Jackson's case † (for both of these cases I am indebted to the kindness of Dr. Fordyce); and a few sections from Dr. A. R. Robinson's case ‡ of elbow xanthoma. The cases of xanthoma diabeticorum are a few sections from an unpublished case of Dr. Lustgarten's; a few from an unpublished case of Dr. Elliot's; a few from the case that Dr. Robinson published in the *International Atlas for Rare Skin Diseases,* and a few from an unpublished case of Dr. Robinson's of xanthoma diabeticorum without glycosuria. To all these gentlemen I desire to extend here my thanks for their courtesy. These thirteen cases include all the clinical forms of xanthoma excepting xanthoma of internal organs and that rare form of plane xanthoma which occurs occasionally on the palms or on parts of the integument other than the eyelids.

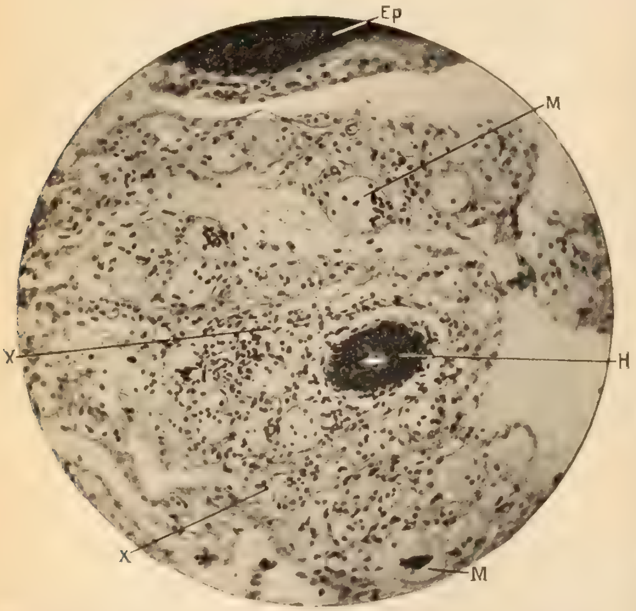

FIG. 1.—Xanthoma planum palpebrarum. *Ep.* Epidermis. *H.* Hair follicle. *X.* Small "xanthoma cells." *M.* Large multinuclear "xanthoma cells."

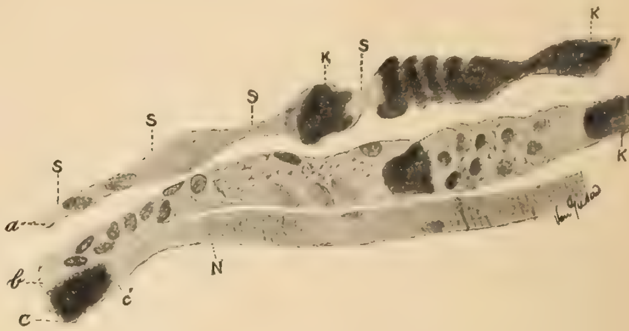

FIG. 2.

It is not my intention to weary you with a detailed description of the histology in each of these cases. Let me say that there is in general a complete uniformity in the structure of the cases of eyelid xanthoma, in that of the cases of multiple xanthoma, and in that of the cases of diabetic xanthoma. Let me add further that a comparison of my specimens with the accounts published by most authors shows that I am dealing with the usual and ordinary forms of xanthoma. It will not be necessary, therefore, to enter extensively into a description of the histology of xanthoma, which has been so well described by previous writers. But I shall present only certain points that strike me as important.

To begin with xanthoma planum palpebrarum, the entire cutis in some cases is filled, from the thin subpapillary layer to the subcutaneous layer of muscles, with the xanthomatous tissue. This fact, in connection with the absence of practically all clinical signs of a cutaneous tumor, conveys a suggestion that I think has escaped previous writers. When we consider how very marked an elevation of the surface a slight follicular or other infiltration in the cutis produces, that even so insignificant an aggregation of cells as those constituting a milium produces a palpable elevation of the surface, is it not a striking fact that so extensive a formation as that in xanthoma planum, which may fill the entire cutis, produces no more than a half millimetre elevation of the surface, or even no elevation at all? And does it not force the conclusion that in xanthoma planum we are not dealing with a new formation at all, but rather with the substitution of one kind of tissue for a preexisting, perhaps normal, kind—in other words, with a degeneration rather than with a neoplasm? Allow me to present here a photomicrograph showing a typical field of xanthoma planum (Fig. 1). You see almost the entire picture made up of smaller and larger cell-like bodies filled with fine granules of fat and containing from one to several dozen nuclei, the groups of cells presenting a more or less lobular arrangement. Whether we regard these as connective-tissue cells, as endothelial cells, or as embryonal fat cells, the fact remains that nowhere else in the whole range of histology do we ever find endothelial or connective-tissue or fat cells developing into anything even remotely resembling the large, multinuclear, granulo-fatty cell which you see here. The so-called xanthoma cell, from this point of view, is absolutely unique. Furthermore, whatever refinements of staining we employ, we are unable to find in these cells anything of the usual protoplasmic structure of a cell body. The so-called xanthoma cells are, therefore, masses of granulo-fatty matter inclosed within a sharp wall and containing many well-preserved nuclei. This consideration has led Unna to deny the cellular nature of these bodies entirely, and to the distinguished Hamburg dermatologist belongs the credit of having distinctly separated on histological grounds the palpebral from the generalized form of xanthoma. He regards these "cells" as infarctions of intercellular lymph channels, with a peculiar fat into which naked endothelial nuclei have escaped. This view of Unna's has not, so far as I know, been accepted by any one. Moreover, the occurrence of such large aggregations of free endothelial nuclei would also be without a parallel in histology; nor can we understand why these fat masses lying free in the lymph channels should not be absorbed. It would appear, then, that all the various explanations of the evolution of these peculiar cells offered by histologists require the acceptance of facts that have no analogy in the entire range of pathology.

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* It may be of interest to refer to the case of Colombini's (*Monatsh.*, xiv, p. 129), in which a typical xanthoma diabeticorum was associated with the presence of pentose in the urine.

* *Journal of Cutaneous and Genito-urinary Diseases*, vol. xi, 1891.

† *Ibid.*, vol. viii, 1890.

‡ *Ibid.*, vol. iii, 1885.

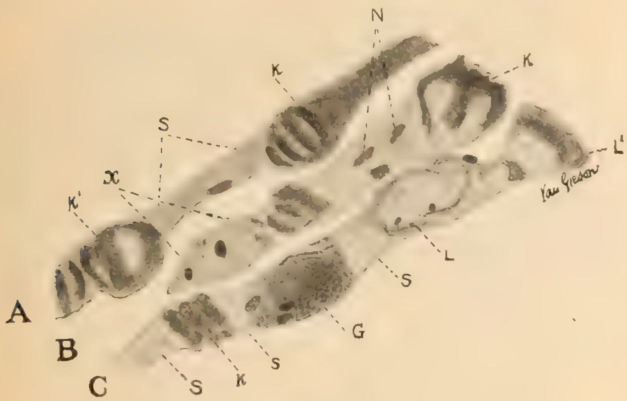

Fig. 3.

The explanation of the xanthoma cell which I shall offer you will involve nothing that is inconsistent with familiar pathological processes. *The so-called xanthoma cell in xanthoma planum is a degenerated muscle fibre.* In examining sections taken from the edge of a growing xanthoma I found a great part of the cutis filled with normal or but little changed striped muscle fibres. Most of these fibres run parallel to the orbicularis palpebrarum muscle; many, however, are oblique to the surface, while in places their direction is confused and irregular. On tracing back the course of the degeneration from the muscle fibre to the "xanthoma cell," the muscle first loses its transverse striation; then the primitive fibrillæ fuse together. In this stage the fibres resemble coarse connective-tissue fibres, and no longer stain deeply with the aniline dyes, but the disposition of the nuclei in their midst reveals their true nature. Next, these glassy homogeneous fibres begin to disintegrate; here and there in the course of the fibre a patch of granular matter appears, while at the same time the muscle cells begin to proliferate. We find now such a homogeneous muscle fibre interrupted in its course by polynuclear masses of granulo-fatty matter that can not be differentiated from the xanthoma masses. Sometimes these granulo-fatty masses contain fragments of muscle substance still quite normal. These changes are beautifully shown in the pictures (Figs. 2, 3, 4, 5, and 6) which I here present, for some of which I am greatly indebted to the kindness of Dr. Ira Van Gieson, who, in spite of being overburdened with other work, found the subject of sufficient interest to induce him to take the time necessary for making these drawings. In places

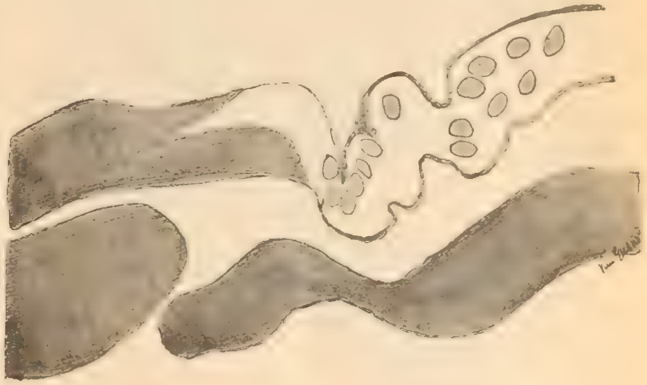

Fig. 4.

we find perhaps only a single almost normal muscle fibre in cross section in the midst of a mass of "xanthoma cells"; or, again, we find a well-preserved bundle of muscle fibres, three or four of whose fibres, however, are in various stages of degeneration, some of them resembling typical xanthoma cells (Figs. 5 and 6).

I shall not here enter into a minute account of this granulo-fatty degeneration of muscle substance, because a quite similar degeneration has been repeatedly described by far abler histologists than myself, and its details may be found in any text-book on pathology. Allow me to refer you to Waldeyer's[*] celebrated paper on the degeneration of muscle fibres, many of whose pictures I can duplicate in my sections of xanthoma. I do not mean to imply that the xanthomatous degeneration is identical with that found in typhoid fever or with that resulting from experimental myositis, but in many of their details the conditions are alike. There are, of course, many changes in the skin other than those I have just referred to, but they are secondary or merely incidental to the muscle degeneration, and have also been repeatedly described. I wish only to say that the small granular mononuclear "endothelioid cells" which many writers have regarded as the earliest stage in the evolution of the "xanthoma cell" are, in accordance with the facts that I have just described, probably only free muscle cells, such as occur regularly in degenerating muscle.

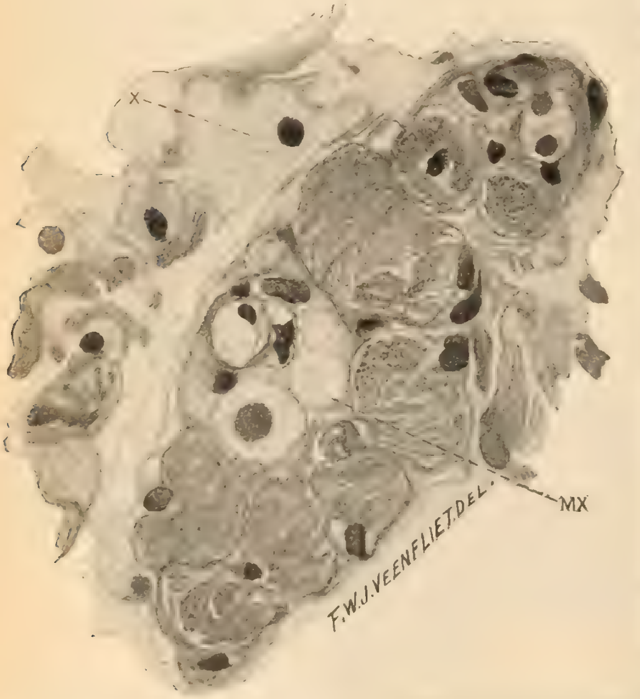

Fig. 5.—Muscle fasciculus in cross section. Near middle, two fibres resembling "xanthoma cells."

A word as to the occurrence of giant cells in xanthoma, to which Touton first called attention. Some writers designate the multinucleated granular xanthoma mass as a giant cell (*e. g.*, Crocker, p. 493). It is perhaps needless to say that these bodies in no respect resemble giant cells, nor are they the giant cells that Touton described. In none of the hundreds of sections of xanthoma from the thirteen cases that I have examined have I seen a single true giant cell, nor do I know of any author but Touton who has seen them. It will be remembered, however, that Touton found giant cells in only one of his eight cases, and that happened to be from a nodule on the eye in a case of xanthoma multiplex. Now, while the nature of the pathological process in the common eyelid xanthoma entirely excludes the probability of giant cells occurring, it is not at all impossible that they may develop in the multiple form of xanthoma. I am indebted to Dr. Unna for a section of what he calls giant-cell xanthoma, which, as you know, he differentiates from the common xanthoma. Dr. Unna, it must be noted, did not see the case; the specimen was sent to him by a friend, with the clinical diagnosis of xanthoma. The specimen bears not the slightest resemblance to either the common eyelid xanthoma nor to the multiple xanthoma. In this connection permit me to remark that not everything is xanthoma that is yellow. So, for instance, Darier has recently shown that the *xanthome élastique* of Balzer and Chambard[*] is a disease of the elastic tissue and not at all a xanthoma.[†]

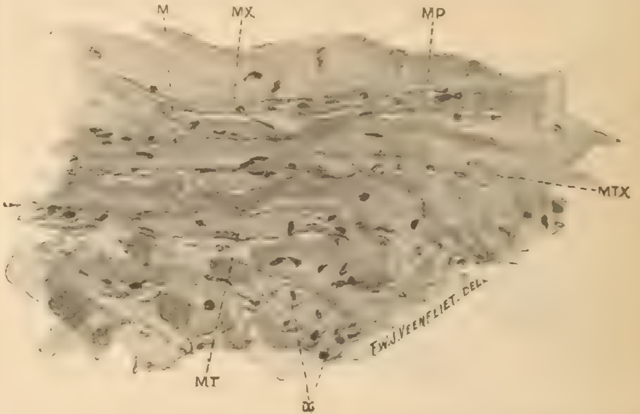

Fig. 6.—Longitudinal view of degenerated muscle fibres paralleled by tubes of xanthoma masses.

The thought will occur to you, as it did to me, "Is it possible, then, that muscle fibres have occupied the entire cutis as their degeneration products, the 'xanthoma cells,' do?" That this is indeed the case you can convince yourselves by a glance at the specimen under the microscope, which shows the greater part of the field occupied by but slightly changed muscle fibres, as well as by this photograph (Fig. 7), which shows, in the midst of xanthoma tissue, a distinct muscle fibre directly beneath and parallel to the epidermis. Of course in many cases the muscle fibres do not fill the entire cutis, as in the sections before you, but occur in comparatively isolated bundles amid the normal tissues. Their degeneration then will yield such pictures as are shown in Crocker's text-book or in Touton's article; that is, comparatively isolated groups of xanthoma masses.

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[*] Virchow's *Archiv*, Band xxxiv.

[*] An interesting observation of Chambard and Gouilloud's (*Ann. de dermat.*, 1883, p. 660) seems to afford a striking corroboration of the myogenetic origin of the xanthoma "cell." A small tumor, resembling a pendulous molluscum, was removed from the back of an adult. On section the tumor was found to be made up of muscle fibres and xanthoma cells. The case is presented as an example of the transformation of a congenital tumor: *myome xanthomateux développé dans un molluscum.* I should not hesitate to pronounce it a pendulous myoma with xanthomatous degeneration of muscle fibres.

[†] Pseudoxanthoma elasticum. Third International Congress of Dermatologists, London; *Monatsh. f. prakt. Dermat.*, 1897.

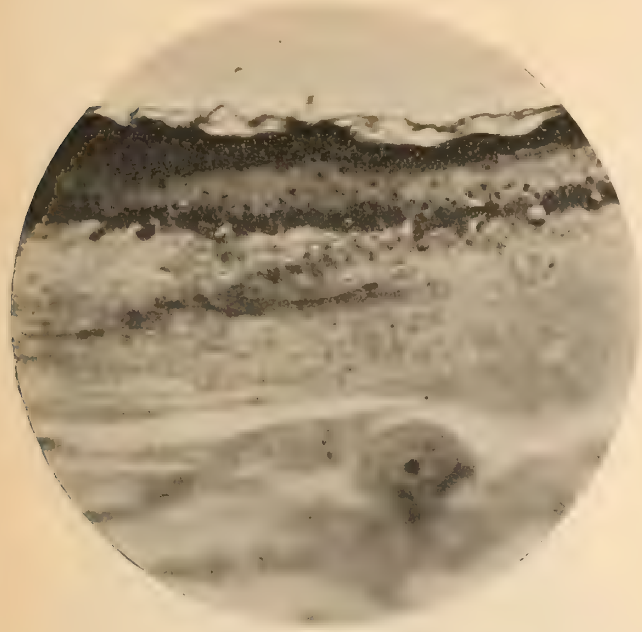

FIG. 7.—Muscle fibres directly beneath the epidermis.

It remains to inquire into the origin of these muscle fibres. There can be only one answer to this question. They are clearly derived from the orbicularis palpebrarum, and are, no doubt, in their abnormal position the result of embryonal misplacement. It will be remembered that the fibres of this muscle are arranged in parallel bundles encircling the eyelids, and are normally separated from the epidermis by an extremely thin elastic layer of cutis, which, by the way, is free from any coarse connective-tissue bundles. At the inner canthus some of its fibres sweep around from one lid to the other, and from this region some fibres pass upward to the corrugator supercilii and others run downward and outward to merge with the general muscular layer of the face. From the inner canthus, too, Horner's muscle passes inward beneath the circular fibres of the orbicularis. No fascia or dense aponeurosis separates any of the face muscles from the cutis. It is clear that in this disposition of the muscles an opportunity for the embryonic displacement of fibres is readily afforded, and the chances of such a displacement's occurring are greatest where the complexity of the arrangement of muscle fibres is greatest—namely, at the inner canthus.

Accepting the myogenetic origin of xanthoma of the eyelids, regarding it not as a new growth but as a product of the degeneration of muscle, we find an explanation for a number of hitherto unexplained facts, clinical and pathological. (1) The absence of any clinical signs of tumor. (2) Its almost exclusive occurrence in the face, where peculiar muscular conditions prevail. (3) Its common arrangement in elongated plaques, whose long axis is parallel to the course of the orbicularis fibres. (4) Its heredity. (5) Its usual development after middle age, when degenerative processes are apt to occur. (6) The peculiar yellow pigment, which is always found in muscles undergoing fatty degeneration. (7) The structure of the tissue as I have described it above.*

The structure in the eight cases of generalized xanthoma that I have examined is so strikingly different from that of eyelid xanthoma that it seems remarkable that they should ever have been confused. I can account for this confusion only on the ground that some of the earlier cases of xanthoma of the eyelids examined were examples of xanthoma tuberosum that happened to be located on the eyelids. Such, I believe, was Waldeyer's † case, and such I am sure was one of Touton's cases (Case VIII). Look for a moment at the photograph (Fig. 8)

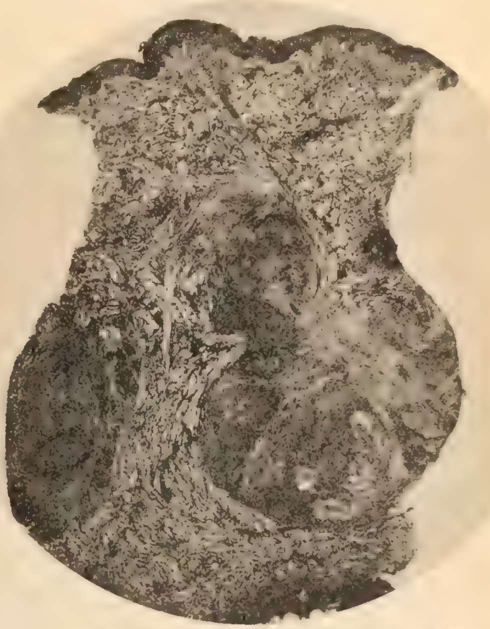

FIG. 8. Xanthoma tuberosum multiplex. Author's case.

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* Since this was written I have examined many more specimens of eyelids with a view to determining the normal distribution of muscle fibres in the cutis. I find, contrary to what is stated in the text-books on the anatomy of the lid, that in a great many cases the muscle fibres are arranged in an extremely irregular manner. Small bundles are found so often separated from the main layer of muscle that it would seem as if what I have assumed to be an embryonal displacement of muscle fibres may be only a more extreme example of what is a quite common occurrence. This fact, however, does not militate against my argument. It is only the outlying fibres that undergo xanthomatous degeneration, and the tendency to a particularly scattered arrangement of the fibres may well be inherited.

† Virchow's *Archiv*, Band lii.

showing a typical nodule of xanthoma multiplex from my case. You see a sharply circumscribed nodule surrounded by compact connective tissue located in about the middle of the cutis. Under a higher power only a single point of resemblance to the myogenetic xanthoma masses appears—namely, the cells of this new growth contain fat. But even this resemblance disappears on close inspection. The fat is arranged in distinct, though small, globules that are separated from each other by the meshes of a reticulated protoplasm. The nuclei of these cells are large, and the cells contain seldom more than one nucleus, only in the rarest instances as many as three, never the immense aggregation that we find in some of the myogenetic xanthoma masses. The details of the structure of my case of xanthoma tuberosum have been published by Unna in his *Histopathology of the Skin*, and I need not repeat them here. Being in possession of some alcohol specimens, the lack of which Unna deplored, I am able to some extent to supplement his description. The xanthoma neoplasm is a typical hyperplastic development of connective tissue in which connective-tissue cells develop into fibrous tissue on the one hand, or undergo fatty degeneration on the other, in varying proportions. At the periphery numerous fibroblasts may be seen, and the development of fibrous tissue preponderates; while toward the middle of the nodule the connective-tissue cells become more and more filled with fat until, yielding to fatty degeneration, they finally rupture, leaving the middle of the nodule a mass of fat and cellular detritus. Virchow * speaks of it as a unique fact in histology that these connective-tissue cells neither undergo fatty degeneration on the one hand, nor, by confluence of their fat particles, develop into pure fat cells on the other. In seven of the eight cases of generalized xanthoma that I have examined this fatty degeneration occurred, and in the eighth (Robinson's case of elbow xanthoma) I failed to find it, either because I had but three slides from this case or because the nodule was of too recent formation to have undergone fatty degeneration. One point more strikes me as of interest. In the middle of the degenerated portion of the nodule a few connective-tissue cells, generally stellate, are always preserved, forming an island connected with the neighboring tissue by fine connective-tissue fibres which traverse the surrounding fatty detritus. This peculiar and absolutely characteristic patch of degeneration is very well shown in the photographs (Figs. 9, 10, and 11). Fig. 9 shows a degenerated portion of Fig. 8 under a higher power. Fig. 10 is from Dr. Morrow's case of xanthoma tuberosum. Fig. 11 is from Dr. Robinson's case of xanthoma diabeticorum.

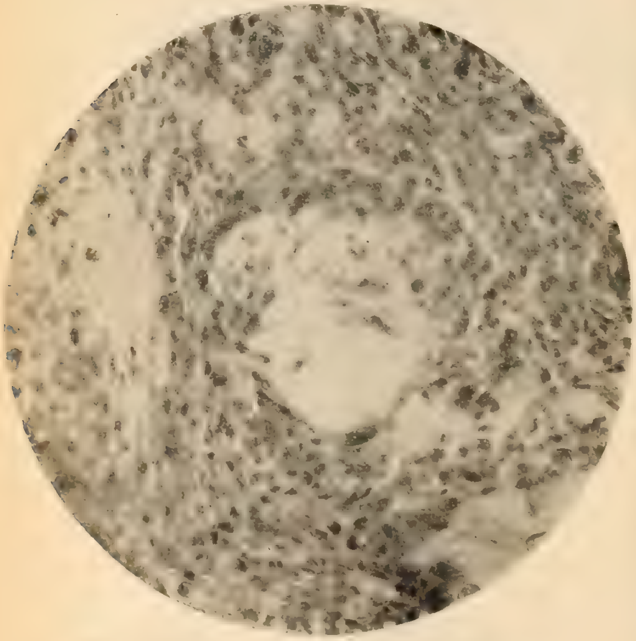

FIG. 9.—Xanthoma tuberosum multiplex. Author's case.

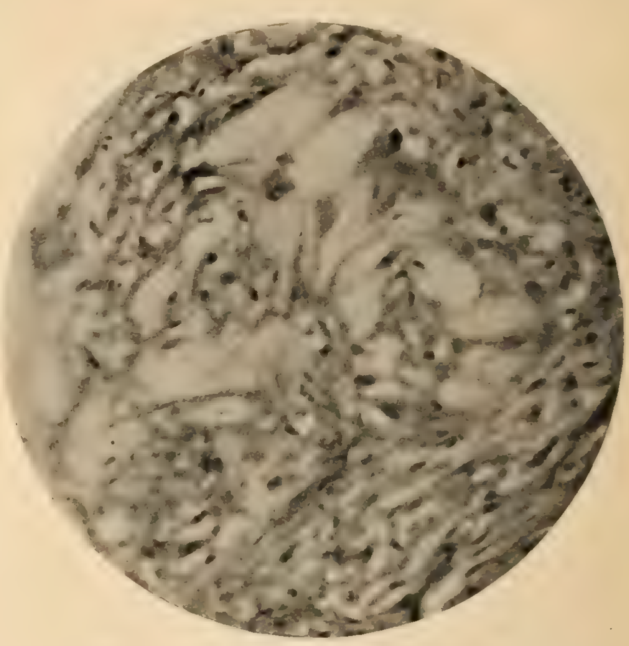

FIG. 10.—Xanthoma tuberosum. Dr. Morrow's case.

Xanthoma diabeticorum differs histologically from xanthoma tuberosum in the following non-essential details only: (1) The new formation of connective-tissue cells is not sharply limited to one or more nodules, but is a more diffuse process. (2) The entire process is located more superficially in the cutis. (3) The tendency to fatty degeneration is more marked, and the formation of fibrous tissue less apparent. It results, therefore, that in a single section there will be numerous foci of degeneration. Dr. Robinson was, I believe, the first to describe these in xanthoma diabeticorum under the name of retrograde changes. Török,* who lacked an opportunity to examine personally this form of xanthoma, dwelling on Dr. Robinson's description of degenerative changes in xanthoma diabeticorum, insists on placing the two forms of generalized xanthoma in different classes, because in the one, according to previous descriptions, there is degeneration, and in the other there is not. My eight cases, however, make it clear that he is mistaken.

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* Virchow's *Archiv*, Band lii.

* *Ann. de dermat.*, 1893.

A few words on the general pathology of xanthoma multiplex. The earliest writers on the subject were struck by the association of affections of the liver and xanthoma. As the cases have multiplied, the correctness of this observation has been verified. The statistics on this point are somewhat unreliable, because in many cases no distinction has been made between xanthoma planum and multiplex. According to Crocker, in four fifths of all the recorded cases of xanthoma multiplex above puberty, about sixty in number, there was chronic jaundice, due to severe lesions of the liver.

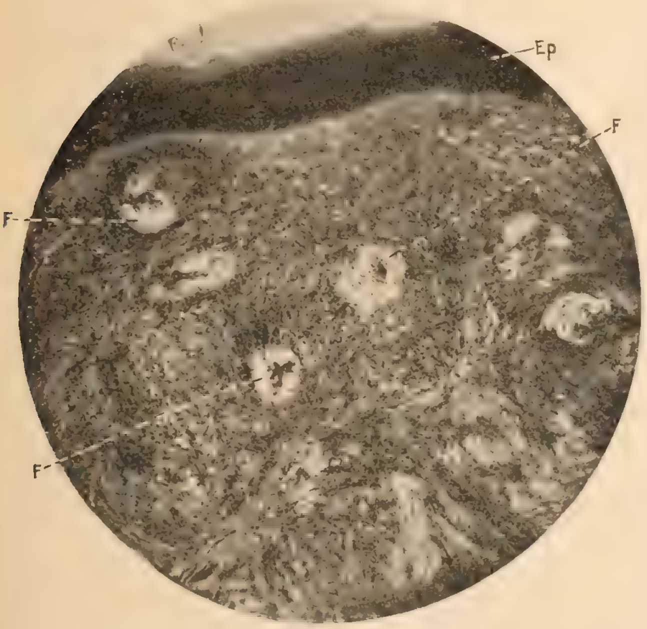

FIG. 11.—Xanthoma diabeticorum. Dr. A. R. Robinson's case. *Ep.* Epidermis. *F.* Foci of fatty degeneration.

Adding the twenty-five cases of xanthoma diabeticorum, we have a total of eighty-five cases, in seventy-three of which (over eighty-five per cent.) a severe systemic disturbance was present. Admitting that these figures are only approximately correct, this proportion is clearly too large to be accounted a mere coincidence. And I think we are justified in regarding xanthoma multiplex as an irritative process depending on a toxæmia of hepatic origin or on that of the still unknown pathological complex, one of whose manifestations is glycosuria.

It appears to me not unlikely that further research may show that the fibrous nodes and the fusiform enlargements of tendons in chronic rheumatism are to be placed in the same general class as the nodes of xanthoma. If this is true, we should have a large group of diseases, hepatic, diabetic, rheumatic, all characterized by disordered metabolism, in all of which irritative connective-tissue lesions occur in the skin and elsewhere. At one end of this series of lesions we should have the persistent fibrous node of rheumatism; at the other, the nodule of diabetic xanthoma, with its marked tendency to fatty degeneration; while between them, intermediate in its formation of fibrous tissue and its tendency to undergo fatty degeneration, would stand the nodule of common xanthoma tuberosum.

Permit me, in closing, to sum up briefly the conclusions arrived at in this paper: (1) Xanthoma palpebrarum vulgare is not a neoplasm; it is the product of the degeneration of embryonically misplaced muscle fibres. (2) It bears no histological relationship whatever to xanthoma tuberosum disseminatum. (3) The common xanthoma tuberosum and xanthoma diabeticorum are similar processes. (4) They are both connective-tissue neoplasms in which the relative proportion of fibrous tissue and connective-tissue cells varies in different cases. In both the cells undergo a fatty degeneration, resulting in the destruction of the cells and ultimately in the more or less complete disappearance of the nodule. The process is more diffuse and the degeneration more rapid in the diabetic form. (5) Generalized xanthoma is an irritative process whose cause must be sought in some systemic disturbance.

EXPLANATION OF FIGURES.

Figs. 1, 7, 8, 9, 10, and 11 are photomicrographs, and are sufficiently described in the text. Figs. 2, 3, and 4 were drawn by Dr. Ira Van Gieson, who wrote the description which follows. The sections are from formalin specimens, and are stained with polychrome methylene blue; Leitz immersion, $\frac{1}{12}$; lowest ocular.

"Fig. 2. Three striped muscle fibres from the lower middle cutis. Fibre *c* is normal except at the left-hand extremity. The right-hand three quarters of the fibre show transverse and vertical striation and Krause's lines distinctly. At the point *N* the striation becomes indistinct and disappears. The fibre here has a homogeneous appearance and a change in its calibre; it becomes narrower, and again over the distance *c–c′* is enlarged into a homogeneous darkly staining mass of degenerated hyalinelike muscle substance.

"The fibre *a* shows a further stage of this conversion into clumps and segments of darkly staining homogeneous degenerated muscle substance. Between these larger and smaller segments, *K–K*, the sarcolemma *S S S* is apparently empty and collapsed. At the left extremity of the fibre two sarcolemma nuclei are seen within the narrowed sheath.

"In the fibre *b* are two of these homogeneous hyalinelike degenerated segments of muscle substance, and the rest of the sarcolemma sheath is filled up with a fine network, in the nodal points of which are slight thickenings. The sarcolemma nuclei have proliferated to a considerable degree.

"Fig. 3. Three degenerated muscle fibres from the same region. Fibre *A* shows same appearances as fibre *a* in Fig. 2. At *K′* a globular mass of degenerated muscle substance appears to have a hollow centre. In fibre *C* a similar phase of degeneration is shown, but apparently more advanced, as the degenerated segments show a tendency to become hollow and vesicular, as at *L* and *L′*, and at *G* to become finely granular. The fibre *B* shows a transition stage from this phase of degeneration to the production of structures indistinguishable from xanthoma cells, *X*, at the left-hand extremity.

"Fig. 4. Portion of three muscle fibres from the lower cutis. The lower fibres show vertical striation distinctly. The upper fibre stops abruptly and its thickened sarcolemma sheath passes on, emptied of muscle substance and containing a number of proliferated sarcolemma nuclei."

Figs. 5 and 6 were drawn by Mr. Veenfliet, artist to the pathological laboratory of the New York State hospitals.

Fig. 5. Alcohol specimen; stain, hæmatoxylin and picro-acid-fuchsin; Leitz objective, $\frac{1}{12}$; ocular 2. Cross section of an isolated muscle fasciculus from the middle cutis. Most of the fibres show a peculiar fragmentation. At *MX* several of the fibres present a network like that of fibre *b* in Fig. 2, which can not be distinguished from *X*, a xanthoma mass.

Fig. 6. From the upper middle cutis; Flemming specimen; safranin; objective D; ocular 2. Shows a number of muscle fibres in various stages of degeneration in longitudinal section. The fibre *M* presents a glassy homogeneous appearance. *MP* is a fibre whose nuclei have greatly proliferated, while at its end, *MX*, it is converted into a fine granular xanthoma mass. *MT* shows the same fatty granular appearance, stained black by the osmic acid, throughout its length, with occasionally nuclei in the mass. *MTX* appears to be a similar fibre, showing signs of separation into smaller masses resembling xanthoma cells. Typical xanthoma "cells" are shown at *X*.

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THE RELATION OF OPHTHALMOLOGY TO GENERAL MEDICINE.

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I wish to present for your consideration a paper, the subject of which, at least, ought to be of some interest to the practitioner of general medicine, inasmuch as he is frequently called upon to treat many affections of the eye or in which the eye participates, and therefore should be more or less interested in the part played by that organ in the causation of functional nervous disturbances and reflex conditions. Scientific researches have vindicated the position claimed for ophthalmological practice as covering a multitude of physical ills, and in considering my subject I shall endeavor, as far as possible, to confine my remarks to matters of ordinary occurrence in general practice.

In the eye and its accessories is found a small specimen of every tissue met with in other parts of the body, as well as tissues peculiar to itself.

It is easy, therefore, to understand how many diseases may affect these different tissues, and how each one affords points of diagnostic importance.

With scrofula we may have phlyctenulæ of the conjunctiva or cornea, styes, conjunctivitis, eczema of the lids, or blepharitis. With rheumatism or gout we may have iritis, chorioiditis, or paralysis of the external ocular muscles; with malaria, retinal hæmorrhages, spasm of accommodation, or lesions of the vitreous. Syphilis is credited with being the cause of fully three fourths of all cases of chorioiditis and atrophy of the optic nerve, one half of all cases of iritis, and one third of all ocular palsies.

The acute febrile and infectious diseases, which lower the resisting power of the tissues and render secondary infection more easy, are particularly liable to be accompanied by some ocular lesion; thus measles may show ocular lesions during any of its stages.

Catarrhal conjunctivitis, phlyctænula, dacryocystitis, and retinitis are frequent complications of scarlet fever, chicken-pox, and small-pox. During the epidemic of small-pox in Vienna in 1889 and 1890 nine per cent. of the cases presented some ocular lesion.

With diphtheria we may have retinitis and paralysis of the ciliary or external ocular muscles; with influenza, conjunctivitis, keratitis, corneal ulcers, iritis, cyclitis, chorioiditis, or affections of the internal or external ocular muscles. Anæsthesia or inflammation of the cornea, retinal hæmorrhages, or chorioiditis may occur in typhoid fever. Puerperal fever, intermittent fever, and pneumonia are frequently accompanied by retinitis.

Diseases of the circulatory system, such as anæmia, chlorosis, hydræmia, pyæmia, and atheroma, are liable to give rise to some such ocular lesions as conjunctival and retinal hæmorrhages, chorioiditis, paralysis of accommodation, and œdema of the lids. Diseases of the kidney are especially liable to be accompanied by eye complications, and often lesions of the fundus may be discovered by the ophthalmoscope before any other symptoms are manifest. Frequent ophthalmoscopic examinations of the eye should therefore be made in all cases of pregnancy in which the existence of a neuroretinitis not only justifies but demands the induction of premature labor. With diabetes we may get cataracts, keratitis, corneal ulcers, hæmorrhages of the conjunctiva, optic neuritis, atrophy of the optic nerve, and paralysis of the external ocular muscles, and with uræmia or Bright's disease we get retinitis, retinal hæmorrhages, optic neuritis, palsies, and iritis.

Statistics show that nearly all cases of albuminuric retinitis prove fatal within two years after the ocular lesion manifests itself.

I have recently had under my care a patient with a bad iritis, which continued to grow worse in spite of all treatment until an examination of the urine revealed about thirty per cent. of albumen, and he was sent to his family physician for the proper constitutional treatment, whereupon the percentage of albumen rapidly diminished and his eye recovered. This one case illustrates the necessity of an early examination of the urine in a large percentage of our eye cases.

Œdema of the lids is one of the most common symptoms of trichinosis and arsenical poisoning. It may also occur in lesions of the heart, lungs, or kidneys. Œdema of the conjunctiva is an early symptom in cerebro-spinal meningitis. Blepharospasm may occur during mental excitement, chorea, hysteria, or epileptic seizures.

Ptosis is frequently an indication of some brain lesion, especially in the frontal lobe of the cerebrum just in front of the fissure of Rolando. Styes usually indicate an anæmic or strumous condition, or some derangement of the digestive or reproductive organs. Painless ulcers of the cornea are due to a lesion of the fifth nerve. Spontaneous, recurrent conjunctival hæmorrhages in old people are of a serious significance, and often indicate possible hæmorrhages into the brain and the existence of kidney disease. Nystagmus may be the result of brain lesions, especially in the pons, or it may be a premonitory symptom of disseminated sclerosis. Hemianopsia may occur suddenly as a sole manifestation of cerebral hæmorrhage, or is often a premonitory symptom of paralysis with a lesion or tumor of the brain.

Paralysis of the external ocular muscles may be the result of syphilis, tabes, diphtheria, diabetes, progressive muscular atrophy, or basilar affections of the brain. An eye paralysis, however simple it may seem, is always a just cause for suspicion of trouble to come, and demands prompt and thorough examination of the patient.

Abscesses of the lower lid are sometimes the result of abscesses of the gums. Affections of the lacrymal apparatus may be due to an acute or chronic coryza. A large proportion of the cases of phlyctænula of the conjunctiva and cornea are due to eczema of the nose, and usually show a depraved condition of the system and improper diet. Herpes of the cornea is not of uncommon occurrence during bronchitis or pneumonia. Spontaneous retinal hæmorrhages are often the forerunners of cerebral hæmorrhages.

Indigestion frequently causes feeble accommodation and weakness of the external ocular muscles.

The eyes are projecting in hydrophobia, hydrocephalus, asphyxia, and exophthalmic goître; they are sunken in collapse and cholera; they are rolling in epilepsy and meningitis; they are staring in apoplexy, convulsions, meningitis, and febrile conditions; they are dull and expressionless in dementia and typhoid conditions. The pupils are dilated in delirium tremens, apoplexy, anæmia, insanity, tabes, uræmia, hysteria, collapse, syncope, coma, drowning, epilepsy, and nearly all cerebral affections with increased intracranial pressure. They are contracted in sunstroke, typhoid fever, and hæmorrhage of the pons.

They are unequal in general paralysis, tabes, compression of the brain, and posterior spinal sclerosis. If dilatation of the pupil follows contraction during an attack of apoplexy the prognosis is very grave. Sudden dilatation of the pupils during complete anæsthesia is an indication of an impending asphyxia.

Monocular dilatation of the pupil and paralysis of accommodation are suspicious premonitory signs of insanity.

As so many general affections are accompanied by internal lesions of the eye an ophthalmoscopic examination is of great assistance in making a diagnosis, especially in cerebral and spinal affections. The retinal vessels derive their supply from the same source as the greater part of the brain, therefore derangement of the cerebral circulation is often accompanied with simultaneous changes in the retinal vessels. Especially is this true in chronic conditions; thus, an examination of the color sense and visual field is often of extreme value in the localization of intracranial affections. The eye and its appendages being supplied by six of the twelve cranial nerves, it is no wonder that intracranial lesions seldom exist without some ocular symptoms. If the lesion is sudden, it is probably of vascular origin; if acute, developing within a few weeks, it is probably of inflammatory origin, and if chronic and of slow development, it is probably due to a neoplasm causing a gradual increase in the intracranial pressure.

Optic neuritis is a characteristic finding in a large number of brain lesions with increased intracranial pressure, such as abscess, tumor, hæmorrhage, and meningitis, especially if they are located in the cerebellum or adjacent parts, in which case it is usually due to direct implication of the optic nerve. It is usually bilateral. If unilateral or more pronounced on one side, it is generally found on the same side as the lesion, which is then, as a rule, located in the anterior part of the brain. The neuritis may be accompanied by contraction of the visual field and color disturbances, and if the lesion is near the base of the brain there is usually some œdema of the lids, exophthalmos, pain, and photophobia.

When there is increased intracranial pressure the pupils are nearly always dilated and react poorly to light, excepting when the lesion extends within the ventricles, in which case they are very much contracted.

Other ocular symptoms which may occur in lesions of the brain are hemianopsia—as a rule binocular, or when monocular it is usually on the side opposite the lesion and due to irritation of the opposite hemisphere; exophthalmos and œdema of the conjunctiva due to pressure upon the cavernous sinus and ophthalmic vein; convergent strabismus due to pressure on the sixth nerve, which is especially exposed to pressure on account of its long course in the skull; atrophy of the optic nerve, due, in all probability, to injury of the optic tracts, and choked disc caused by the entrance of fluid into the sheath of the optic nerve. The latter is the most frequent and most important symptom in the diagnosis of brain tumor of whatever kind or wherever situated, being present in fully two thirds of the cases. It might be well here to correct the erroneous impression which many have that choked disc and optic neuritis are one and the same thing. The former is a simple œdema of the nerve, without inflammatory symptoms, and may not interefere in the least with the vision; while the latter is an inflammation of the nerve and always interferes with the vision proportionately to the amount of inflammatory action.

All irritative eye symptoms, such as spasms, photophobia, lacrymation, etc., usually decrease or subside with the improvement or disappearance of the intracranial affection, but symptoms due to a destruction of tissue will persist.

Too much stress can not be laid upon an early diagnosis of certain affections of the eye, such, for instance, as iritis, glaucoma, optic neuritis, sympathetic ophthalmia, gonorrhœal conjunctivitis, corneal ulcers, and retinal hæmorrhage. Mistakes in diagnosis are especially liable to be made in cases of iritis and the wrong treatment pursued, until adhesions are formed between the iris and lens capsule, making the eye practically blind for life. Special caution should be taken in discriminating it from glaucoma, as the treatment of the two diseases is entirely different. This mistake in diagnosis, followed by the use of atropine, has destroyed many an eye and caused many a suit for malpractice. In iritis the pupil is small, the cornea transparent and sensitive, and the tension normal; while in glaucoma the pupil is somewhat dilated, the cornea steamy and insensitive, the tension increased, and the anterior chamber shallow.

In no branch of our work is greater evil to be expected from a wrong or neglected diagnosis and treatment than the one comprising the sympathetic diseases of the eye. Wounds in the ciliary region of one eye may at any time, from a month to forty years, be a source of sympathetic trouble in the other eye. This is especially liable to occur when the tension of the injured eye is less than normal. The early symptoms of sympathetic ophthalmia are photophobia, lacrymation, impairment of vision, ciliary neuralgia, contraction of the visual field, and impairment of accommodation.

Certain drugs administered internally are capable of causing ocular symptoms: thus, œdema of the lids may be caused by arsenic, chloral, hydrocyanic acid, and quinine; twitching of the lids by eserine, pilocarpine, and strychnine; ptosis by lead; conjunctivitis by arsenic, belladonna, bromide of potassium, chloral, eserine, iodine, iodide of potassium, muriatic acid, nitric acid, podophyllin, and resorcin; anæsthesia of the cornea by apomorphine, sulphonal, and quinine; paralysis of the external ocular muscles by alcohol, cocaine, lead, and quinine; dilatation of the pupil by aconite, aniline, belladonna, caffeine, cocaine, conium, cyanide of potassium, cannabis indica, cantharides, digitalis, ergot, gelsemium, henbane, hydrocyanic acid, hyoscyamine, prussic acid, quinine, and stramonium; contraction of the pupil by carbolic acid, chloral, eserine, iodoform, morphine, nux vomica, opium, oil of bitter almond, pilocarpine, and salicylate of sodium; sluggishness of the pupil by alcohol, carbolic acid, gelsemium, and hydrocyanic acid; paralysis of accommodation by belladonna and lead; spasm of accommodation by eserine and tobacco; floating bodies in the vitreous by ergot, naphthaline, and tea; retinal hæmorrhage by carbolic acid, lead, mercury, and phosphorus. Inflammation of the optic nerve may be caused by arsenic, cannabis indica, lead, phosphorus, and tobacco; atrophy of the optic nerve by cannabis indica, felix mas, lead, mercury, quinine, salicylate of sodium, and tobacco. Glaucoma may be caused by belladonna and cocaine; exophthalmos by carbolic acid, hydrocyanic acid, and quinine; lacrymation by antipyrine and iodide of potassium; photophobia by cannabis indica and tobacco. The color sense may be disturbed in various ways by drugs; for instance, Daltonism may be caused by ergot, lead, quinine, and tobacco; yellow vision by amyl nitrite, chromic acid, digitalis, picric acid, and santonine; violet vision by cannabis indica, and red or blue vision by iodoform.

We have very rudely and hurriedly considered some of the affections and toxic conditions in which the eye participates, and now I wish to call your attention to the importance of recognizing the existence of serious errors of refraction and muscular insufficiencies.

There is hardly a subject in medicine that has received more attention of late than the effect of eye strain upon the nervous system, and especially its connection with headache. It is the chief complaint of a great majority of my patients, and its relief by ophthalmic treatment has been most satisfactory. When I first began special work it seemed to me that a great many ophthalmologists had been inclined to give undue prominence to ocular defects as a cause of headaches; but after an analysis of over five thousand refraction cases, as they appear on my case books since 1891, I find that of the entire number over eighty per cent. suffered more or less with headache.

The location and character of the pain usually depend on the kind and amount of ocular defect. I have found, as a rule, that headaches from refractive errors are usually frontal or orbital, while those due to muscular insufficiencies are more often occipital or cervical. Many patients with ocular defects complain little or not at all of ocular symptoms. One may have a large degree of ametropia, and yet declare that his eyes are perfect. He has no pain, no soreness, no hyperæmia of the conjunctiva, no local symptoms whatever. Thus the effects of eye strain may be divided into two classes—viz., those limited to the eye itself and those presenting systemic or extra-ocular results.

The function of the eye is to form a perfect image of an object upon the retina in precisely the same way as a photographer's camera does upon the sensitive plate. When the antero-posterior diameter of the eyeball is too short, or the media too weak in refractive power, as in far-sighted people, the rays of light strike the retina before they are brought to a focus, and the muscle of accommodation is put to an excess of effort to bring the focus forward so that it shall be upon the retina. When the cornea is unequally curved in different meridians, as in astigmatism, giving the eye two foci instead of one focus, the retinal image is blurred and the muscle of accommodation seeks to neutralize this corneal asymmetry by an unequal contraction. When there is an insufficiency or lack of muscular balance in the external ocular muscles, the weaker muscles are put to an excess of effort in order to maintain binocular vision. Thus we may clearly see that the great effort on the part of the ciliary and external ocular muscles to maintain accurate binocular vision spurs the oversensitive nerve centres to extraordinary exertion. An astonishingly large proportion of the population of all civilized countries have weak eyes. I say civilized countries, for it is a recognized fact that eye strain is, in a large degree, the result of civilization.

Astigmatism and far sight may be just as prevalent among the savages, but their accommodative apparatuses are not being constantly strained by reading, writing, sewing, and many of the other accomplishments of civilization. This is the reason why so few nervous disorders exist among uncivilized nations.

That eye strain is one of the most important of all factors that tend to produce functional nervous disease has been demonstrated by the recorded observations and experiences of a multitude of skilled and trustworthy physicians. Among the nervous affections whose ætiology may frequently be traced to eye strain are headache, vertigo, hysteria, neuralgia, neurasthenia, chorea, epilepsy, and nervous prostration. Digestion and assimilation may be directly and profoundly disordered by eye strain. Cases of nausea and vomiting, connected with the use of the eyes and relieved by wearing the proper glasses, are quite numerous. I believe that night terrors, insomnia, non-restful sleep, and nocturnal incontinence of urine in children, working hard at school, are the direct result of eye strain. Too much stress can not be laid upon eye strain as a factor in the production and aggravation of neurasthenia, among the most important signs of which are eye symptoms such as contraction of the visual field, paralysis of accommodation, hyperæmia of the conjunctiva, and a convergent or divergent strabismus. A very frequent and interesting symptom is an inability on the part of the patient to entirely close his lids when standing with his legs together.

That there is a direct relationship between anomalies of the eye and epilepsy no one can deny, but how much it amounts to, or how often it is encountered, is still a question. About twenty per cent. of all epileptics have some congenital anomaly of the eye, especially some form of refractive error. Some time ago at a meeting of the Ophthalmological Society of the United Kingdom, a report on the refractive condition of epileptics was made by Dr. Dodd, based upon the examination of a hundred epileptic subjects, and the conclusions drawn by Dr. Dodd were, first that "errors of refraction may excite epileptic seizures; second, that the correction of the refractive error is of value in the treatment of epilepsy; third, that other sources of irritation may be suspected when a correction of the refraction fails to afford relief."

In my opinion a very good rule to follow in getting at the ætiology of epilepsy would be to instill atropine into the eyes of every case under thirty years of age, and if, after a complete paralysis of accommodation, the convulsions still continue, we may be certain that it is not due to a refractive error.

From the foregoing facts it is evident that an abnormal condition of the eye may be a fruitful source of reflex disturbances, and that we have it in our power to render the aid to Nature that will relieve a great deal of suffering, not to mention the improvement in vision to be gained by many in the proper adjustment of glasses to their eyes.

SOME ASPECTS OF CHRONIC MALARIAL INFECTION AND THEIR TREATMENT.*

By W. H. THOMSON, M. D., LL. D.,
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The trend of our present discussion on the subject of malaria illustrates at least one aspect of the great change within our own time in the whole conception of the nature of infectious diseases. In September, 1862, after two years' experience as hospital physician at the New York Quarantine, I published a paper in which it was argued that the chief clinical facts about the communicable diseases would be explained only on the assumption that they were due to micro-organisms. This statement was then met with general ridicule, the prevailing view being that these diseases were caused by volatile poisons emanating from the bodies of the sick or pervading the atmosphere. In 1855 the Massachusetts Medical Society addressed a statement to the public that Asiatic cholera was not at all contagious, but was instead a miasmatic disease diffused through the air. Even long after pyæmia following upon surgical operations was shown to be due to bacterial infection of wounds, surgeons operated in a cloud of antiseptic spray to prevent the germ-laden atmosphere from infecting the cut surface. Gradually this modified conception of floating micro-organisms gave place to the conviction that pathogenic germs do not float about in the air so much as they cling to surfaces and to things. But malaria, on the other hand, still held its own, as its name implies, as an undoubted evil air, a true miasm which rises from the earth's surface, particularly at night, and is thus inhaled with our breath. The demonstration, however, that it too is caused by a micro-organism suffices to remove it equally from the list of miasmatic diseases, for there can be no such thing as a living vapor or gas. Whether after this we can believe in the existence of miasmatic diseases at all, or, in other words, in true malarias, is a question.

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* Read at the general meeting for the discussion on malaria at the New York Academy of Medicine, April 20, 1899.

On this great subject, therefore, our point of view is wholly changed. What remains for us now to study is the birth and life history of an organism, and this turn in the problem from the pursuit of an ill wind to the pursuit of a definite living thing undoubtedly marks one of the greatest gains in the history of medicine, an advance which was not possible so long as attention was turned in quite a wrong direction. Whether also the line of investigation is to be still further defined, and the mode of entrance of the infection to be sought neither by the lungs nor by the alimentary canal, but by direct inoculation with insect bites, is not yet settled; but a positive demonstration that the infection can be thus caused raises a strong presumption that this is the ordinary course, because inoculation is a method so peculiar and specific that it is doubtful if there are other wholly different methods equally operative. Should the inoculation theory be finally established, the ultimate control of this worldwide scourge would certainly be in sight, and Medical Science could then say that there should be no more unhealthy climates, but only unhealthy places, which, moreover, she could thoroughly disinfect if properly supplied with the means.

Functional nervous affections due to the toxine of malaria are very common, but at present I would refer only to its production of periodical neuralgias. I do not know that I have ever met with pains of greater severity than in some of those patients whom I have seen in consultation with their physicians. Their commonest form is a violent headache, generally diurnal and recurring at the same hour of the day or night; but I have also met with typical attacks of the kind in the spine, in the sides of the chest, in the abdomen, and in the pelvis. The history of a malarial infection, however, is not always certain, for in two cases the antecedent was an attack of epidemic influenza. In the *Medical Record*, March 17, 1894, I published the histories of four cases of this kind, and since that I have met with a number of others. The attacks of pain last about as long as ordinary paroxysms of febrile malaria, followed by remission or total intermission until their times of recurrence come round. I mention these cases more particularly on account of the action of a drug which I have found specific in controlling the pain, and in finally ridding the patient of it, and that is ergot. In every case in which I had recommended it, quinine in heroic doses, as well as Warburg's tincture, antipyrine, and other remedies, had wholly failed to relieve the paroxysms, while ergot, given in drachm doses of the fluid extract, either by the stomach or per rectum, and repeated in two hours if the first dose failed to fully relieve the pain, was uniformly successful. It was curious that in several of these patients doses of only twelve grains of quinine caused symptoms of cinchonism if administered along with the ergot, which did not occur with far larger doses of quinine administered previously.

Every remedy which exerts a marked influence on a given disease is on that very account liable to misuse by mere routine administration, and thus may frequently seem to fail. It is instead a good principle in therapeutics that the better the remedy the greater should be the care in its administration. Quinine in the treatment of malarial disease is certainly no exception to this statement. Thus it is often prescribed as if it were such a specific antidote that, if a recurrence of the chills is prevented by it for a week or so, its administration is then suspended. I would advocate, on the contrary, the doctrine that the occurrence of a single true malarial attack implies an infection whose systematic treatment should not cease for at least six weeks, if not much longer. Were this rule adopted after every first attack, when the recuperative powers are not seriously lessened, I believe that there would be but few relapses or chronic infections. Subsequent attacks to such a course would then be due to reinfections from without and not to relapses, and it is well to bear this distinction in mind. A relapse distinctly shows that the infecting organism had not been got rid of, and that enough remained instead to multiply again. That this often occurs in malaria is shown by its persistent recurrence in patients, notwithstanding their removal to non-malarious localities, where reinfection could not happen. Now that we definitely know what our enemy is, further researches are greatly to be desired as to the length of time the parasites remain living in the blood, and what their life history in an individual may be. As Professor Theobald Smith showed at our last meeting, the blood parasite of the Texas cattle fever has been found to exist actively in the blood for as long as five years. In human malarial disease on the other hand, numerous observations on the incubation period following the first infection show that it varies greatly in different individuals. Thus, some years ago a party of seventeen persons from the town of Bex, in Switzerland, where malaria is unknown, made a trip to an Italian town for sea bathing, and the entire company subsequently developed ague after returning home, the majority within three weeks, but others not till the second, third, and fourth months after the date of their infection.

It is this feature of latency which often renders this affection so intractable by inducing patients to drift on from month to month uncured because they take no systematic course, but only short medication after some febrile relapse, until their powers of resistance are much lowered or permanent organic injury has resulted. But a watchful observation of such patients during the latent stages often would show instead that they were actually diseased, by such facts as periodic marked increase of the excretion of urea and of phosphoric acid at definite times in the twenty-four hours, as shown by Ringer; also, without their being aware of it, a temporary febrile state accompanied by a sense of muscular fatigue. Likewise, the digestive functions are constantly getting out of order, but in a fashion quite characteristic of malarial infection, as are also many of the accompanying nervous derangements. Let some unusual systemic strain now happen from exposure or exertion, and the familiar old chills and fever return, with rapid enlargement of the liver and spleen. Quinine is now taken again, but with evidently less effect than before, until at last it seems to make the patient worse rather than better. We are all familiar with such clinical histories and term them obstinate cases, whereas they are usually cases of neglect of continued treatment of the original infection, rather than of a reinfection, ending sometimes in a fatal anæmia. Indeed, I have often questioned whether some cases of progressive anæmia do not bear the same relation to a long antecedent malarial infection that some textural nervous diseases bear to a long antecedent infection by syphilis. However that may be, latent malarial infection should not be allowed to carry on its hidden mischiefs. Now that examination of the blood affords us as certain evidence of the presence of malarial disease as examination of the urine detects kidney disease, patients should be recommended to have their blood tested at intervals for this parasite for at least nine months after apparent recovery.

The curability of a malarial infection varies so much, according to the person infected, that in no other disease is the futility so often exemplified of mere dosing with drugs irrespective of the individual's constitution. A large number of persons, as a regiment of soldiers, for example, are infected under identical conditions as to time and to locality. The majority of them never reach the stage of illness from it, while the rest are invalided in the most varying degrees, from a few days to a whole year. Hence, spontaneous cure, without any treatment, must be predicted as not uncommon, and due to individual powers of resistance. Chronic malarial infection, therefore, implies a personal susceptibility, original or acquired, which calls for particular management. During the months of September and October last I had a hundred soldiers with Cuban malarial poisoning admitted to my wards at the Roosevelt Hospital, and I found that quinine had been given to every one of them in doses varying from fifteen to ninety grains daily for periods varying from four weeks to three months, but without true remedial effect, the blood in every instance showing the plasmodium apparently indifferent to the presence of this drug, though many of the patients were quite cinchonized by it. This clinical fact, however, by no means shows that quinine is not *the* medicine for malarial disease, for, on the contrary, it is the first remedy to be given for this disease. With quinine employed in the right way, and with proper adjuvants, every case of malarial disease ought to be cured, however chronic or obstinate. Owing to the practical interest of the subject I would take the liberty in closing to give a brief sketch of the course of treatment which I should recommend. First, begin with a mercurial laxative, given toward the close of the febrile paroxysm and made to act within six hours. Mercurial purges are the best agents against the intestinal self-infection which occurs in every fever, though notably in scarlatina and in typhoid fever, but just as certainly in ague as well. Moreover, a special reason for their use in this fever is that quinine is an unstable alkaloid, readily decomposed by too long a sojourn in the alimentary canal before absorption. Strychnine heated to 140° F., though its chemical constitution seems unaltered by this degree of heat, yet is rendered wholly inert; and that the portal congestion characteristic of malarial fever much delays both the absorption and the action of quinine is shown by the fact that quinine given hypodermically produces cinchonism in a healthy person in one third the dose which is needed to produce that effect when given by the mouth; while in conditions of hepatic congestion, however produced, the difference is still more marked.

Having thus promoted the absorption of the drug by the preliminary purging, the time for the administration of the quinine is the next important indication. Among the hundred soldiers mentioned, while the rest had been relieved by the treatment to be referred to presently, there remained two who continued to show a daily febrile rise for some fourteen days. As often occurs with infection by the æstivo-autumnal parasite, it was difficult to determine the exact time of the onset of the paroxysms in these two cases, but a careful inspection of the temperature chart finally led to altering the time for the administration of the quinine, the dose remaining the same as before, whereupon the fever was speedily broken after the time change. My own observation on this point coincides with that of many others, that the entrance of the fullest doses of quinine into the circulation should coincide as nearly as possible with the time of sporulation in the life cycle of the parasite—that is, from one to two hours before the time for the chill—because the more adult forms seem to be less susceptible to the drug. Were it not that large single doses of quinine are prone to irritate the stomach and thus delay absorption, particularly when gastritis due to hepatic congestion is already present, the appropriate dose might be given at once. But for the reason stated I prefer to prescribe its administration in three equal doses, an hour apart, the last from one to two hours before the expected paroxysm.

It has been a matter of common experience, especially in the treatment of malarial fevers in the tropics, that the action of quinine appears to be promoted by the simultaneous administration of various spices. The remarkable *farrago* of compounds in Warburg's tincture, the original formula of which is said to have called for seventy-six ingredients, doubtless owes much of its efficacy in chronic malarial disorders to its predominant proportion of spices. I have been accustomed, therefore, for many years to prescribe powdered ginger along with quinine, in equal quantities, and I have felt convinced that I could get along with smaller doses of the quinine itself by adding the ginger in the treatment of our ordinary intermittents. I have known ginger alone, administered in a large dose in hot milk, to break up chronic ague of the quartan type when quinine had conspicuously failed. In a number of cases I have also added pulverized capsicum, a grain to four of quinine, but it is curious that the first dose of this combination often acts as a free purgative.

But cases of chronic and severe malarial infection are continually occurring in which quinine seems wholly to fail to cure the disease. Such a problem confronted me when my colleague at the Roosevelt Hospital, to whose service I succeeded on the 1st of September, told me that the soldiers in the wards had been there from the 17th of August, and that, though he had tried every form of administering quinine as to dose or method, as well as Warburg's tincture, and free administration of arsenic, yet the general results had been very unsatisfactory. In some cases large doses of quinine held the temperature for a few days, but only to be followed by relapses. The best results with this drug were in patients who had true intermissions, but these were a small minority, the fever with most of the others running a continuous but very irregular course, the predominant form of the plasmodium being of the æstivo-autumnal variety. I determined then to try the most ancient of known remedies against malarial poisoning—namely, opium—as an adjuvant to quinine. Forty-seven of the actively febrile cases, with temperature ranging from 103° to 106° F., were chosen, while check cases, in equal number at first, were left with the former treatment. I chose the camphorated tincture of opium as the most suitable preparation on account of its stimulant properties, and gave it in three daily doses of half an ounce each, with doses of fifteen grains each of quinine and of ginger twice a day.

As I have already published a detailed account of our observations on the effects of the camphorated tincture of opium as an adjuvant to quinine in these Roosevelt Hospital cases, I will only quote from it the following: In twenty-two, or forty-seven per cent. of the number who took paregoric, the result was an immediate break in the fever—that is, the temperature fell to normal in twenty-four hours, nor did it rise again afterward. This effect was the more impressive because in every instance they had been unavailingly treated with quinine and Warburg's tincture for an average period of ten days previously without reducing the fever. Of the remaining twenty-five out of the forty-seven there were ten patients, or about twenty-one per cent., in whom it took from thirty-six to forty-eight hours to reduce the temperature to normal. No relapse was recorded in the case of any patient who took the paregoric treatment after the temperature was once reduced to normal.

Sir William Roberts, chairman of the British royal commission appointed to investigate the opium question in India in the years 1893–'94, maintains that the antimalarial properties of opium are due to its alkaloid, commonly named narcotine, but which he maintains should be termed anarcotine, as it has neither anodyne nor narcotic properties. The proportions of the two alkaloids in Smyrna opium are morphine, eight per cent.; narcotine, two per cent.; while in Bengal or India opium the proportion is morphine, four per cent., and narcotine, six per cent. In many cases, according to the voluminous statistics of British India surgeons, narcotine administered alone has been more efficacious than quinine as an antiperiodic. One of the most striking effects of the paregoric treatment in my hands was its unlooked-for antistuporous properties, so to speak. Instead of manifesting the usual symptoms of opiates, many of the actively febrile patients were roused by it out of the characteristic lethargy of the fever, and even in the weak apyretic patients with pronounced anæmia the testimony was almost uniform that they felt better and stronger after taking it, the effects appearing the very reverse of narcotic and more like those of a cardiac and general nervous stimulant. I have noted analogous results also in private practice in the treatment of chronic malarial infection, notably when the patients complained of repeated headaches and general malaise, so that I have no hesitation in recommending this preparation of opium as one of our most trustworthy agents in the management of this common cause of prolonged invalidism in our climate.

PHTHISIS:
ITS ÆTIOLOGY AND TREATMENT.

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The importance of my subject is without bounds when we pause to consider the fearful fact that about one sixth of the human race suffers from its ravages today. However, few medical men of experience will say that phthisis is an incurable disease, at the same time admitting that all cases are not curable; indeed, the percentage of curable cases is quite small, and yet large enough to encourage active and intelligent treatment.

To effect a cure in phthisis the conditions of cure must exist—*i. e.*:

1st. The absence of hereditary predisposition.

2d. The early recognition of the disease.

3d. The resisting power of the organism.

4th. The organic state of the patient.

5th. The early occurrence of hæmoptysis.

6th. A natural tendency to a fibrous rather than a caseous metamorphosis of exuded products.

Two important factors are then to be considered as the causation of phthisis—*i. e.*:

1st. The presence of the tubercle bacilli within the cell tissues.

2d. The resisting power of the organism to its growth.

Treatment may then be carried on in either one of two ways, or both.

1st. By attacking the tubercle bacilli within the organism, thus to weaken and destroy.

2d. By promoting the general nutrition.

After reviewing the history and clinical records of phthisis, we are compelled to admit that the greater success has attended the strengthening and fortifying plan.

A study of the animal organism in health reveals the fact that some of the body fluids are acid while others are alkaline, and in disease we find the reactions become altered or reversed; hence, the functions are changed. So, when the reaction of the secretions and excretions become altered or reversed, it is evidence of perverted functions. It will suffice to speak of only a few of the changes that occur in the chemical reaction of the body fluids in disease. The reaction of the saliva in the healthy subject is distinctly alkaline, but in certain diseases it becomes acid; and the normal reaction of the gastric juice is acid, which may increase until it becomes what is known as hyperacidity, or it may decrease until the acid reaction is absent.

These extreme reactions are of the highest clinical significance; and, on the other hand, there can be but little doubt that equally great changes take place in the cell tissues as are known to take place in the fluids. Hence at times the human organism undergoes changes which favor the reception and growth of the tubercle bacilli.

In the healthy subject we find a certain sanitary condition of the fluids and tissue cells which resists the growth of the tubercle bacilli, and, being unable to thrive, they die within the organism. But in the hereditary subject we find a different condition, where a change takes place; the cells being unable to resist the invasion of the tubercle bacilli, they thrive and grow.

The nutrition of the patient should be promoted by suitable food given in such quantities as to secure assimilation and digestion. In cases unattended with symptoms of indigestion it is well to allow them to take such food as they would in health, not restricting them to any particular kind of diet, unless it is to increase nitrogenous and fatty foods, especially encouraging them to eat plentifully of butter and drink unsparingly of cream, at the same time diminishing carbohydrates, which patients do not digest well.

A very large percentage of phthisical patients present symptoms of indigestion, which makes their management difficult and often unsatisfactory, they being unable to take food in quantity sufficient to promote nutrition. In these cases some advocate "forced feeding." But how these patients, whose digestive systems are already deranged, can take, digest, and assimilate more food than is desired, I certainly fail to understand. It seems to me more rational to restrict the diet in cases with impaired or deranged digestion to liquids of an easily digestible nature, until such a time as the gastric functions are restored, and then from time to time add such articles of diet as are found to agree with the patient. It is difficult to formulate a rule for feeding phthisical patients. The satisfactory thing to do is to carefully study each case separately, and adapt the diet to the individual case.

I would warn against the pernicious habit of giving patients something to eat between meals, unless it is a glass of hot milk.

The surroundings of the patient should be such as to favor nutrition: the dwelling located in a region known for its purity of atmosphere, where there is freedom from all miasmatic and malarial influences; if possible, where the extremes of temperature are not too pronounced. The site should be a pleasant one, with southern exposure and protected from cold winds. Drainage should be as perfect as it is possible to make it; the house should be well ventilated and lighted. Dampness is conducive to the growth of the tubercle bacilli as well as other germs.

One great difficulty confronts us in the treatment of these cases, and that is, to get the patient to consent to a plentiful supply of fresh air in the sleeping room. It is too much the habit for people to shut out the good fresh air, which is so essential. The sleeping room should contain but little furniture and the bed clothing should be woolen. It is well to cover the floor with a rug that can be removed and cleaned at pleasure; the walls and furniture of the room should be mopped weekly with a solution of mercury bichloride (one in a thousand). Sweeping or raising a dust is very dangerous, and should be *strictly* forbidden.

A sponge bath should be taken every morning in the following manner:

The patient standing in a tub that contains a few inches of warm water, just enough to cover the feet, so that they may be kept warm until dressed. Beside the patient, on a stand, should be a basin of cold water, about 50° to 65° F., and a large sponge. With this sponge, lightly wrung out of the cold water, the entire body should be gone over rapidly; then, dipping the sponge in the cold water again, it should be squeezed over the shoulders and chest. After rapidly drying with a coarse Turkish towel the patient should be dressed, still keeping the feet immersed in the tub of warm water. If the morning baths are carried out in this manner they will be found very refreshing and invigorating.

The patient should wear woolen underwear the whole year, but of different weights for different seasons: a heavy weight for winter, a medium weight for spring and fall, and for summer a light merino.

If proper precautions are taken regarding the underclothing, we need not bother much about the outside clothing, as common sense will no doubt dictate to the patients proper changes, according to the weather.

A most important feature regarding the prophylaxis of tuberculosis, so far as it relates to destroying the vitality of the bacilius outside of the human body and to minimizing the sources of infection, is the care and proper disposition of the expectoration and other secretions which might contain the bacilli.

A number of distinguished members of the medical profession have expressed their views as being favorable to the isolation of consumptives, but I can not permit this opportunity to pass without placing myself on record as utterly opposed to any such measures. Isolation had been practised long before Koch demonstrated the bacillus of tuberculosis. In Naples and in Portugal laws existed a hundred years ago which placed consumption upon the same footing with pestilence and smallpox. The laws in Naples were of the most stringent character, and existed in the same form for about fifty-four years without affecting the prevalence of consumption to any marked degree. If the advocates of isolation would reflect for a short time and consider the hardship and injury which would follow its introduction, affecting, as it would, a large proportion of the human race, and seriously interfering with our entire social life, without giving the slightest assurance of better results than those obtained after many years of trial in Naples and Portugal, one would think that they would hesitate to advocate so inhuman a proposition. It can not be denied by them that a very large proportion of consumptives are phthisical subjects long before they themselves are aware of it; and even physicians frequently treat "alveolar catarrh" as bronchitis until the microscope demonstrates the fact that the patient's expectoration is full of tubercle bacilli. What benefit would be derived by isolating advanced cases of pulmonary consumption if in the early stages they are permitted to deposit millions of microbes with their expectoration upon the public streets, in public places and conveyances, and in their own homes; and, finally, what advantage would isolation have if carried out in New York State and not in New Jersey, or if adopted in the United States and not in Canada? Isolation is not only cruel, but it is entirely infeasible, and the sooner the medical mind is directed in other channels the better it will be. Patients should be well instructed that to expectorate in any place except in the proper receptacle means great danger to themselves and others.

The receptacle for expectoration should be half filled with an antiseptic solution, and have a tight-fitting cover, that it may be closed when not in use, so flies may not gather about it. I caught a few flies in my hand that were gathered about a spittoon in the room of a phthisical patient, and, taking my captives to the laboratory, prepared, stained, and mounted the tongues and feet. Upon microscopical examination of these specimens I found millions of tubercle bacilli, thus proving the fly to be a germ carrier and a very dangerous source of infection. These same flies could have entered the kitchen or the dining room, alighted upon the prepared food, dropped into the milk, or got into the butter, and so infected those that partook.

Cornet says that he "obtained the dust from the walls of a room occupied by a consumptive. This dust was made into a broth, some of which was injected into several animals, all dying within a short time of typical bacillary tuberculosis."

Experiments show that dried sputum inhaled is a common source of infection. Patients in bed and too weak to make use of a spittoon should be provided with moist rags, which should be burned immediately after use. The infectious nature of the saliva should be a warning never to kiss.

The question of inheritance has always been considered one of vital importance among those interested in the study of pulmonary consumption. The views now generally held deny the existence of congenital tuberculosis; but the disposition to acquire the disease is most commonly found among the offspring of consumptive parents, and about one third of all phthisical patients come from either paternal or maternal parents suffering from consumption. Diligent inquiries into the family histories of many consumptives induced the writer to make the following statement:

Only a small proportion of phthisical patients can be found who do not possess a family history which either demonstrates a directly inherited tendency or a directly or indirectly acquired disposition toward the development of the disease.

If a climate is to be at all beneficial it is in the early stages, occurring in persons capable of taking active exercise. The disease should be limited, non-progressive, and quiescent, or but slowly advancing, with little or no fever. It is a mistaken idea to send patients that are advanced into the second and third stages of the disease off on a globe trot when rest and home comforts are in greater demand. I do not believe in the specific curative quality of any climate, but do believe very strongly that it is essential to the majority of phthisical patients to be treated and cured in the same climate that they have to live and work in after their restoration to health. The features of "consumptive resorts" are greatly overestimated and dangerous. Asheville, North Carolina, is no exception. Having lived there and devoted much time and study to the subject of tuberculosis, also being associated with an esteemed and valued friend, Professor Edwin Klebs, I feel that my opinion may be of some value. Asheville, North Carolina, is a city where thousands of phthisical patients gather from all over the country, the majority being in the second and third stages of the disease. These poor, misled patients are advised to go to Asheville, because " a change of climate will cure them," and so they make every effort possible to reach that haven; and the home physician draws a sigh of relief when they have gone. And so the patient arrives in Asheville to find thousands there for the same purpose—*i. e.*, " to be cured without physician's aid, as climate will do it all." Here we find thousands without a medical adviser, going about the city streets, depositing expectoration that contains millions of tubercle bacilli upon the sidewalks every few feet, which, being exposed to the sun's rays, dry and pass off into the atmosphere, to be inhaled into the air-passages of the inhabitants. Flies alight upon these deposits of expectoration and then go from dinner table to dinner table, drop into the milk, alight upon prepared food, and so infect the masses. Such a state of affairs is most dangerous, and the profession should know the condition, that they may govern themselves accordingly.

It is no single remedy or climate that is a panacea against phthisis, but it is a judicious and continuous application of a great number of differing influences and remedies fitting to the individual case which promises good results. Patients, as a rule, do not know what will help or injure them. They require constant care and comfort. The diet must be adjusted to the present powers of digestion. Many patients, when improved and on a fair way to recovery, suffer a relapse from various causes of indiscretion and overexercise caused by ignorance or want of self-control. Consumptives are, in many respects, a peculiar class of people. The hopefulness which is a part of their disposition almost always accompanies the disease and leads them to regard many indications of failing health with indifference, no matter how self-evident these may be to their relatives and friends. They feel out of sorts, experience a constant tiredness, are perhaps a little more irritable than formerly, and many times complain of an impaired or capricious appetite; they lose in weight, become a little feverish in the afternoon or evening, have a slight cough and expectoration, and pass restless and dreamy nights, due to sweating and high temperature; yet none of these symptoms seem to draw their attention to themselves, until, greatly to their surprise, they are suddenly seized with the spitting of blood. No matter how small the amount may be that is brought up, there is nothing that will alarm or demoralize a patient more than this. They seek medical relief without delay, and seem to realize their condition from this moment. This is one kind of hæmoptysis which comes under observation. Then we have another, which occurs in the following manner: A patient may or may not have slight spitting of blood, going through the various stages of the disease, to the point of excavation, without any recurrence of this trouble; but, all at once, without any warning or apparent reason, he is seized with a violent hæmorrhage, blood gushing out of the nose and mouth, seemingly to be in imminent danger of bleeding to death; and, indeed, death does result from such a hæmorrhage, this condition being caused by a rupture of a vessel in a cavity.

The condition of the first class of patients mentioned (blood-spitting) emanates from the rupture of the bronchial or pulmonary capillaries, also from extravasation or oozing of blood through and from the walls of the blood-vessels. That of the second class comes from a break in the walls of an exposed and unsupported aneurysmal artery on the surface of a cavity. The difference between these two types mainly consists in the amount of blood which is lost and the ease or difficulty with which the blood flow can be checked. Practically, the first deals with those patients who have no cavity, and, so to speak, are in the first stage of the disease; while the second comprises those which have a cavity, and are therefore in the third stage of tuberculosis.

The first aim in the treatment of all cases of hæmoptysis is to make the patients comfortable, both physically and mentally. Place them at rest upon the back, and administer morphine and atropine hypodermically. If the bleeding does not come from a cavity, or is not too copious, assure them that in reality the hæmorrhage has no serious significance; that the bleeding is indeed not only harmless, but an actual benefit, since it unloads and relieves the congested condition of the affected area. This will tend to allay fear and nervousness more than anything else. If you succeed in doing that, you will have gained a most important point in the management of the case. The patient should be kept quiet and in bed, and under no condition allow him to sit up until forty-eight hours have elapsed since the last trace of blood was seen. In all cases of profuse hæmorrhage the patient must be made to cough up the blood, so that it may not coagulate in the air-passages and so cause death. In some cases without a cavity, the hæmoptysis is quite copious, and medical treatment internally is unable to subdue it. Under these circumstances resort must be had to local application of ice to the patient's chest. This is well done by filling one, two, or three rubber bags with ice, which should be wrapped in towels and brought in contact with the skin; by this means the bleeding is usually controlled in a short time. There is a certain amount of unnecessary fear and prejudice against the use of the ice-bag which prevents its application and fosters the idea that it should be held as a last resort. This is a serious mistake and should be corrected. If the hæmorrhage is *at all* profuse, apply the ice-bag without delay. Sudden atmospheric changes in the rise and fall of the barometer seemingly influence pulmonary hæmorrhage.

There is no doubt that the phenol group has a larger field than is yet developed. Recent investigations confirm us in the conclusion that the wider the scope of the drug the more it emphasizes the value of the treatment we put forward. Guaiacol is recognized as the most efficient agent that we possess for the treatment of tuberculosis. It should be given in small doses at first, and gradually increased, going from one to fifteen grains at a dose. The therapeutic value of guaiacol is an established fact, and proof is not wanting. Its germicidal qualities and its ability to repair tissue waste and increase the red blood-corpuscles and hæmoglobin make it an essential element in the modern treatment of phthisis. Guaiacol in large doses certainly has caustic properties, and not only burns the mucous membrane, but destroys the epithelium of the gastric tract, and, for this reason, it should be given only in small doses, the effects of which will be found pleasing and highly satisfactory. A tablespoonful of emulsio sevi et olei comp. (Dr. Russell), in a glass of hot water after meals, will be found a very valuable aid in the repair of tissue waste.

With knowledge of digestion and body requirements, a more perfect grip of essential wants of the phthisical, and the importance of arresting all outgoings, as well as the introduction of food at once digestible and nutritive, the prospects of the phthisical are much brighter than ever before. Phthisis and gastric derangement go hand in hand, and malnutrition adds to the rapid downfall of a struggling constitution. The symptoms which furnish therapeutic indications are cough, pains in the chest, fever, and dyspnœa. Coughing, to some extent, is necessary for the removal of morbid products within the bronchial tubes and cavities, but in those cases where the cough becomes excessive phenobromate in five-grain doses every hour will give much relief. Pains in the chest, whether due to neuralgia or pleurisy, will be relieved by one or two ten-grain doses of phenobromate. For patients whose fever does not go higher than 100° F. a cold sponge bath under the bed clothing will be found most beneficial. Should the temperature go up soon after, phenobromate in five-grain doses will be of good service.

Phenobromate is an analgetic and antipyretic of coal-tar origin, being a superior preparation to antipyrine or phenacetine, acting chiefly on the thermotaxic centre, and, to a slight degree, on the skin, increasing elimination, and as a hypnotic in this class of patients it will be found excellent. Phenobromate is not destructive to the corpuscular elements of the blood, and possesses the advantage of being a prompt antipyretic as well as an analgetic preparation. It does not depress the circulation, and may be given in large doses for many consecutive weeks without the slightest danger of ill effects.

In all patients who have made an apparent recovery, and in whom the disease has been arrested, it is well to dwell on the importance of using a clinical thermometer several times daily for at least a year, and in the event of fever they should report to their physician. The necessity for this precaution is obvious when we reflect that many of the germs of tuberculosis continue to live, though in a quiescent state, for an undetermined period after all manifestations of their presence have ceased, and then, so long as this condition obtains, fever of any kind, if not promptly checked, could easily awaken them to renewed activity, whereas, if fever is kept down continuously, they will remain weak and impotent; hence the germ-destroying forces of the body will ultimately destroy them.

397 THIRD STREET.

THE TERM APPENDICITIS, ETC.

By R. ELLIS, M. D.,
UTICA, N. Y.

I HAVE read the article on The Term Appendicitis, and Other Unscientific Words of our Nomenclature, which appeared in your issue of May 20th.

Will you permit me to look over the ground it covers, especially since the article concludes with the statement: "It is positive that our nomenclature, so far as the terms which purport to be Greek are concerned, will remain in gross contradiction to science, so long as malevolence and error in regard to the Greek of to-day exist among us," a statement that requires an answer after a review of the premises which led up to such a final conclusion?

The author criticises the mongrel word "appendicitis," and he would substitute in its place the pure Greek word—scolecoiditis (*σκωληκοειδής* and *ἰτις*,) because, forsooth, the Greek ending *ίτις* is added to a Latin word, appendix.

Is there any literary rule which absolutely forbids such a formation, if euphony and simplicity are gained? Are we obliged to use words whose parts are derived from one language, if a better word is born by uniting words derived from two languages?

We like the Greek words, perityphlitis and paratyphlitis, but we also like the mongrel "appendicitis" just as well. But you say, "It is not a pure word." Well, suppose it isn't; the word means more to me than any word I may form from either the Latin or the Greek. Would any one change that expressive word "appendicitis" for a harsh "scolecoiditis," even though it is "pure Greek"?

Why not accept a pure Latin word, "appendinflammatus"? But as we discuss this mongrel word, other aspiring philologists present *their* words, so we have this list: appendicitis, scolecoiditis, appendinflammatus, ecphyaditis, epityphlitis, *Wurmfortsatzentzündung,* perityphlitis, etc. Now, that "homely" word "appendicitis," mongrel though it is, heads the list as a euphonious word, exactly expressing what we wish. Shall we drop the Latin word, and use that disagreeably sounding Greek word σκωληκοειδής?

The author speaks of the purity of Greek, the impurity of modern German, and derides the "Ἑλληνοφανής language," or the "resembling Greek" language, "forced upon us by our own highly learned medical writers," and decides it is about time we were ashamed of this "mockery of science."

Can it be a mockery of science to unite a Latin and a Greek word if they express more than two Greek words do?

Certainly the educated mind will prefer the best word, irrespective of its derivation.

Is not scolecoiditis a better word than appendinflammatus? For the same reason appendicitis is a better word than scolecoiditis, *even though the Greeks do use it.* The Germans use their *Wurmfortsatzentzündung* and prefer it to our "appendicitis," but we never expect to adopt their word.

We must grant it is advisable to use pure Greek in our new technical words, if we can at the same time obtain the most expressive word, especially since most of our technical words are Greek—as purely Greek as though they had been formed by Greek physicians in Athens. We grant it would be better to substitute even a scolecoiditis for a *Wurmfortsatzentzündung,* especially if we are to attend lectures in Berlin or Vienna. Having had such an experience, we are sure we favor correctly formed Greek words—yes, and only Greek words—for technical description, in order to make the scientific terms "international," and render German lectures intelligible and international meetings more satisfactory; but such a nomenclature is an impossibility.

A study of German technical words, beginning with their labyrinthic word for appendicitis (in which a man may lose himself and wander for days), will convince any physician that the profession of Germany has followed the new version of the golden rule, "Do to the other fellow what you think he's going to do to you, but do it first"—in other words, the German has done what he feared the other fellow would do for him—he has filled his medical lexicon with his own words rather than accept them from "the other fellow"; he revels and frisks in and around these words, though they are impassable fortresses to an outsider. Certainly the German prefers his own words to the international words of "the other fellow," so that his medical words are as firmly fixed and as immovable as our own appendicitis, which is as securely immovable as are the pyramids of Egypt, and can never be "purged" from our nomenclature, not even by a strong Greek cathartic. We grant there is an international advantage in Greek words, especially if we could at once wipe out of our brains all national medical words and replace them by international words; but, alas! it is so hard to acquire even an imperfect nomenclature that we can not "let go" easily, and catch on to substitute words, especially if the author *begins* by taking away from us *policlinic* and substituting astyclinic!

Before he definitely decides to give us this better word, this astyclinic, would it not be well for him to again consult his ever-unchanging Greek lexicon? Astyclinic for our beloved policlinic!

Why, ἄστυ means the real town itself, as distinct from its port or its outlying districts; so we have ἄστυ τῆς πόλεως! ἄστυ, a name going back to the Sanskrit *vàs,*—to dwell, from which we have ἕστια and the Latin Vesta. Is it for this reason the author gives us astyclinic, keeping in mind the ἄστυ τῆς πόλεως? But what's the matter with policlinic, especially since an Irishman in the vicinity of Thirty-fourth Street and Third Avenue would be mobbed and possibly killed if he said he was going to the "astyclinic"!

Policlinic! dear old policlinic! must we give up even thee, pure Greek as thou art?

No, indeed; not so long as we have a Greek lexicon. We brush away the dust and rush to thy assistance, dear old policlinic, or even polyclinic!

Now, then, πόλις is an Homeric word, applied to the *fort of a city,* or to the *whole city,* or even to the *entire city,* including the country about the city as dependent in many ways upon the city.

This use is seen in the writings of Homer, Hesiod, and Sophocles. Witness the expression δῆμὸς τε πόλις τε, where πόλις denotes the entire city—in fact, πόλις, meaning city, is used more often than ἄστυ by every classical author; yet our learned author would, πρὸς τῶν θεῶν, change policlinic to astyclinic! Certainly, we can never improve medical nomenclature if we begin in this way. Our author would change the barbaric vaginismus to coleospasmus; vaginitis to colpitis; pathology to nosology. The author then criticises pathogenesis (a correct word, πάθος-γένεσις) as follows: "On the first page of the text-book of Niemeyer we find the word 'pathogenic.' Now, if we knew everything that we don't know, we might perhaps allow the word to pass, although, used in the sense in which it is intended in Niemeyer's book, it would have no sense after all. In the Greek books of to-day it reads γένεσις τῆς νόσου. Pathogenesis as a word can not be found in any Greek lexicon." Shades of Zeus, Hippocrates, and Hera, must we limit ourselves to words found in the Greek lexicon, when we can at once form such an expressive new word as pathogenesis, which is pure Greek, and so much more terse than γένεσις τῆς νόσου? Truly, the Greek language has been kept so pure that a scientific man does not need the classic atmosphere of Athens to breed a Greek word—nay, verily, in his study in Berlin, New York, or London, the student can correctly form new

Greek words, especially if the Greek language does not contain exactly what he seeks—euphonious sound to convey exact meaning.

So any student anywhere can breed in his brain a word (that may represent unceasing investigation) and present it to scientific society. If it is needed, the word becomes a part of ever-growing, ever-dying scientific language.

We agree with the author that it is "horrid" to call the cardiac orifice of the stomach "cardia," and to call stomach pains cardialgia, yet these unusual words are but as weeds in a garden of beautiful flowers, and weeds will insist on appearing occasionally; even the immortal Vergil wrote of "plowing the salt with the bronze," a synecdochial use of language which explains cardialgia and cardia, "the object near for the object itself"—surely another case of a *lucus e non lucendo.* The originator of these mongrel words never heard of the principle *Ne sutor ultra crepidam,* and so we forgive him.

Likewise the Germans have named a supposed symptom of hydrophobia—*Wasserscheu*—for the disease itself, and some careless student translated this into the equivalent Greek—hydrophobia—a symptom name which is firmly fixed as a name for dog madness—a name that will endure as long as men love dogs and dogs "go mad."

Of course we don't expect to find the word hydrophobia in a Greek lexicon as an equivalent to lyssa, but why not coin a better word than lyssa? Why not the word cynomania (κύων and μάνια)? Surely a better word, when we realize lyssa in Homer means "martial rage," and then later "raging madness, especially caused by the gods" (as the insanity of Orestes over killing his mother), and again "Bacchic frenzy," and again personified into the goddess of insanity, Λύσσα. Thus having made the rounds, it was used by Xenophon to mean dog madness.

Why not improve upon the general term lyssa by the special word, exact in meaning, "cynomania"? But, you say, "There is no such word in the Greek lexicon"! My reply is, "Let us put it there to improve the lexicon."

Now, the author quotes a German philologist, an "exceptional" man, who believes that future barbarisms can be avoided by establishing at Athens an academy to pass judgment upon technical medical terms, and thus prepare the way for a perfect international nomenclature—an object to be desired almost as much as an international language of science, and almost as impossible of attainment.

This German philologist (dear old fellow, I see him now with his pipe and *Stein*) complains that "the chemists with their *terrible* [I see him drain his *Stein*] new formations of word monsters are much worse than the physicians." I am glad he said that.

The author concludes his article by the following, part of which I quoted at the beginning of this article: "Chemistry and medicine are not scientific so long as they teach something which has proved to be false, which is unscientific; and false and unscientific is the medical technical language employed by us this very day. It is positive that our nomenclature, so far as the terms which purport to be Greek are concerned, will remain in gross contradiction to science so long as malevolence and error in regard to the Greek of to-day exist among us."

Such a conclusion requires a very short answer:

1. If all technical chemical and medical words were mongrel words like appendicitis and anthropometalism, the science would remain the same, in spite of poorly selected words, just as broken English may express exactly the thought of pure English, even though it may be harder to understand.

2. The author makes an absurd mistake in supposing there is "malevolence and error" in regard to the Greek of to-day.

In conclusion, an international, or even a national, *pure* nomenclature is an impossibility; it is and has been among the inalienable rights of man to coin new words—such a right is almost included in the right to the "pursuit of happiness"—but no right to "force" a word into use is given any one; we can and we do refuse to use many, many words, since not only are the words *poor,* but what they represent is of no value to any one.

The result of this "literary survival of the fittest" is that the new words that we really need are presented by men whose knowledge of word formation is such that they are able to offer words beyond criticism; though they are not capable of "*Sprachgefühl,*" they certainly are so *sprachgelehrt* that no *Sprachgemisch* is observed even by the most critical. By an unwritten law, man's effort in all directions struggles toward a perfection which is possible only at infinity. Medical nomenclature, by this law, will grow more and more pure, but it will take along the needed impure words as old scars and fresh wounds received in the long and inevitable struggle.

WHY FUMIGATION OF APARTMENTS OCCUPIED BY TUBERCULOUS PATIENTS AT HEALTH RESORTS SHOULD BE UNDER MUNICIPAL CONTROL.*

By CHARLES F. McGAHAN, M. D.,
AIKEN, S. C.

In bringing this subject to your notice I fear some of you will think that I am speaking on a theme that has been fully discussed before, action having been taken upon it by the boards of health of several large cities, as New York and Philadelphia; but it is just for this reason that I want the members of this society to realize the dangers to which their patients are exposed when they send them to the so-called health resorts of this country. I claim it is imperative that every health resort where we send our patients should compel the fumigation of apartments occupied by tuberculous patients to be done under the auspices of the sanitary authorities.

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* Read before the American Climatological Association at its annual meeting, held in New York, May 9, 1899.

I have seen apartments in which have been the worst cases of phthisis disinfected in the most superficial manner, and I have almost shuddered a few days later, when called to these same rooms, to see a case which was showing only the first symptoms of phthisis. Knowing these rooms must be reeking with the tubercle bacilli, I would insist upon the immediate removal of my patient to more hygienic quarters; but there are many cases that take apartments without consulting the physician for some weeks or months, and by that time they would have given the germs every opportunity to contaminate the system. We have some landlords and boarding-house keepers who attempt the disinfection of a room, but, from ignorance of the methods of doing it properly, simply make a farce of it, and at the same time announce that it is perfectly healthy, as everything has been thoroughly fumigated. I remember once having my attention called to a room that was being fumigated; the landlord had carefully pasted paper over all the cracks and keyhole, but had forgotten to close the transom.

Now, if we are so careful at home to have our patients avoid all source of contamination and self-inoculation we should be equally as cautious in selecting a location for them in which to spend the summer and winter, and prevent them from visiting places where the rooms of the hotels and boarding-houses are teeming with tubercle bacilli. Sanitation in most of the small towns of the interior is carried out in its crudest form, and since the contagiousness of tuberculosis has been proved, and the opinion of the profession in regard to it is so well known by most of the laity, we find the larger and better class of hotels at the different resorts refusing to take tuberculous patients; hence it forces that class of patients into apartments owned by people who either do not believe in the contagiousness of the disease or are simply trying to obtain what remuneration they can for their rooms, and in both cases the disinfection is insufficient. Every room offered for rent at a resort frequented by tuberculous patients should have a certificate attached to it stating it to have been thoroughly disinfected and inspected under the auspices of the board of health or sanitary inspector, and that it is, in the opinion of the said board, perfectly healthful. Then we should advise that the local health authorities should pass suitable ordinances by which they can control the nuisance of expectoration on the streets and in the parks; also to regulate the laundrying of clothes of tuberculous patients, which should be washed apart from those of healthy people. I consider it our duty as a society to exert our influence to compel the authorities at the different resorts to pass the proper ordinances to protect the patients we send to those places from the avoidable dangers of contagion. We should insist upon their preventing expectoration on the ground, and we should force them to prohibit the washing of handkerchiefs and cloths upon which the patients have expectorated, and in their place substitute handkerchiefs of cheese cloth, to be immediately burned after use.

In my small sanitarium in Aiken I have enforced the strictest sanitary measures, and am pleased to say that I have so instructed the patients in regard to the laws of hygiene that they consider it necessary to conduct themselves as educators to the townspeople. We are now introducing a system of sewerage in Aiken which is considered to be the best known in the world for an inland town, and is the one so successfully experimented with by the Massachusetts State Board of Health and adopted by them in preference to all others for their interior towns.

The perfecting of the sanitation of Aiken will make the town as conducive to the promotion of health as any resort of the kind I know of, especially since this last improvement is but another advantage added to the superior features of climate and hygiene with which Nature has so richly endowed this little town among the pines of the southland.

In conclusion, I beg to add the hope that I have the hearty cooperation of this society in furthering the adoption of the idea herein mentioned.

Therapeutical Notes.

An Application for Acne.—The *Indépendance médicale* for May 3d gives the following formula:

℞ Precipitated calomel	5	parts;
Glycerin	30	"
Camphorated spirit	80	"

M.

An Emulsion of Cod-liver Oil.—The *Riforma medica* for April 29th gives the following formula:

℞ Cod-liver oil	500	parts;
Sugar	190	"
Gum arabic	5	"
Gum tragacanth	500	"
Infusion of coffee	200	"
Rum or kirsch	100	"

M.

For Facial Pains from Carious Teeth.—Dr. Leo Greenbaum (*International Dental Journal*, May) recommends:

℞ Acetanilide	8	grains;
Phenacetine, Citrate of caffeine, } of each	15	"

M. To make eight powders. One to be taken every two hours.

THE
NEW YORK MEDICAL JOURNAL.
A Weekly Review of Medicine.
Published by D. Appleton and Company.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, JULY 15, 1899.

THE CHICAGO BOARD OF HEALTH AS AN EDUCATING AGENCY.

We have often commended the sanitary work and the investigations of the Chicago board of health, and it is with great satisfaction that we now learn, by a circular, dated July 1st, issued by the commissioner of health, Dr. Arthur R. Reynolds, that the board is prepared to give practical instruction to young men in sanitary science and public hygiene. No fees are to be charged for any of the courses; even instruments, reagents, and other necessary appliances will be furnished gratis. Only graduates in medicine and senior undergraduates of reputable medical schools will be eligible as "internes" in the laboratory, and all applicants will be required to pass an examination in physics, chemistry, bacteriology, and biology.

"The term 'instruction,'" says the circular, "implies the actual doing of every detail of the work in each course by the student himself." The graduate pupils will work three hours daily for two weeks in each of the following courses: General bacteriological work; the bacteriological diagnosis of disease; the chemical analysis of water, ice, and articles of food; and bacteriological examinations of such substances, with special chemical and bacteriological work in the examination of milk. The term of instruction, therefore, will comprise eight weeks, and at its termination each pupil whose work has been satisfactory will receive from the commissioner of health a certificate of his attendance and qualifications.

Undergraduates who have passed the sophomore year will be required to work for a term of only four weeks, attending three hours daily and doing such work as may be assigned to them in preparing culture media, putting up culture outfits, incubating, sterilizing, taking care of instruments, fitting and constructing apparatus, etc., in short, doing the elementary practical work in bacteriology and sanitary chemistry and assisting their teachers. At the close of the term the pupil will receive a provisional certificate entitling him to admission to the senior course without further examination.

In addition, there are to be a special course in sanitary inspection, lasting four weeks, during the first half of which the pupil will accompany a sanitary inspector in his daily work, and during the second half of which, if he has shown sufficient ability, he will take assignments, make inspections and reports, and in fact act as a sanitary inspector on his own account; a two weeks' course in vital statistics, embracing the nomenclature and classification of diseases for statistical purposes, the computation and graphical representation of statistical results, and the laws and ordinances relating to the disposal of the dead; and a course in the department's methods of dealing with infectious diseases, including notification requirements, the isolation of patients, prophylaxis, vaccination, the use of diphtheria antitoxine, formaldehyde disinfection, etc.

Surely this is a scheme well calculated to bring additional credit to a board that has already won enviable laurels. So far as we know, it is the first of the kind to be undertaken by an American health board, at least on so comprehensive a scale and with such generosity toward the pupils. We hope the Chicago board's example will be followed widely.

THE NOMENCLATURE OF "PSEUDO-TUBERCULOSIS."

We have been favored with a copy of the *Report of the Committee of the Pathological Society of London Appointed to Consider the Nomenclature of the Conditions sometimes described as Pseudo-tuberculosis.* The committee consisted of Dr. J. F. Payne (chairman), Dr. J. McFadyean, Dr. S. G. Shattock, Dr. J. W. Washbourn, Dr. G. Sims Woodhead, and Dr. A. G. R. Foulerton (secretary), and the report is dated May 6th. The morbid conditions considered by the committee included nine varieties of infection with various bacilli and cocci, as exemplified in cases described by Du Cazal and Vaillard in 1891, by Malassez and Vignal in 1883 (of a form similar to that recorded by Chantemesse in 1887), by Eberth, Nocard, Zagari, and Parietti in 1885, 1889, and 1890, by Nocard (as occurring in fowls) in 1885, by Eberth, Charrin and Roger, Dor, and Legrain (as occurring in rodents) in 1885, 1888, and 1891, by Courmont and Nuvoletti (as occurring in bovine animals) in 1889 and 1894, by Pfeiffer (as occurring in the horse) in 1889, by Kutscher (as occurring in mice) in 1889, by Preisz and Guinard, Preisz and Morey, and Turski (as occurring in sheep) in 1891, 1893, and 1897, and by Galli, Turni, and Deleidi (as occurring in swine) in 1896; blastomycosis, causing the "pseudo-lupus vulgaris" of Gilchrist and Stokes; streptotrichosis, including Eppinger's pseudo-tuberculosis (cladothrica) and Flexner's pseudo-tuberculosis hominis streptotricha; aspergillosis (infection with *Aspergillus fumigatus*), as described by Dieulafoy, Chantemesse, and Widal, and with certain mold fungi; protozoal infection (the protozoan or coccidioidal pseudo-tuberculosis" of Gilchrist and Rixford); and pathological conditions brought about in the lungs of cattle by the presence of an echinococcus and in those of various animals by that of the *Strongylus vasorum*.

It is the committee's opinion that the term pseudo-tuberculosis ought to be discarded, and they point out its lack of distinctiveness owing to confusion in the employment of the word tubercle in its anatomical sense and in its specific sense as denoting the nodular lesions of the disease produced by Koch's bacillus—a lack which, we may remark, it shares with the term tuberculosis. Some time ago the *Lancet*, if our memory is not at fault, proposed to remedy this confusion to some extent by using the term tubercular only in the anatomical sense and applying the word tuberculous to the lesions, etc., of tuberculosis. The proposed distinction commended itself speedily to the best writers and, we are pleased to see, is coming to be more and more observed as time goes by, so that it seems somewhat singular that the committee, having recognized the confusion arising from the two meanings of the word tubercle, should recommend the term "tubercular nodules" for the nodules produced by Koch's bacillus. The committee's further recommendation that the non-tuberculous forms of "pseudo-tuberculosis" should be designated as glanders nodules, aspergillar nodules, blastomycosis, etc., seems to us decidedly worthy of being followed.

A THEORY OF THE DELAYED MANIFESTATIONS OF CONGENITAL SYPHILIS.

WHAT seems to us an attractive piece of theorizing is set forth in a paper entitled Congenital Syphilis: a New Theory, by Mr. Campbell Williams, F. R. C. S., read before the Dermatological Society of Great Britain and Ireland last November and published in the February number of the *British Journal of Dermatology*. Mr. Williams divides congenital syphilis into four degrees of virulence, the first characterized by the early death of the fœtus and its expulsion by abortion, the second by the birth of the fœtus, alive or dead, at or near term, with syphilitic manifestations on its body, the third by the appearance of such manifestations almost immediately after birth, and the fourth by the intervention of a period of apparent health between the child's birth and the occurrence of signs of syphilis, a period about equal in duration to the ordinary incubation stage of the acquired disease. These four degrees, he remarks, are directly proportionate to the severity of the disease in the mother.

It is with his fourth degree of virulence that he deals more particularly, and it is observed, he says, in infants whose mothers have shown during the gestation no pronounced signs of syphilis, but only marks of ill health that might well be accounted for on some other ground, but that, nevertheless, yield remarkably to mercurial treatment. Such women, he thinks, have received their contamination either from men whose disease is mild but of recent acquisition or from men in whom it is of many years' duration. The mildness of the affection in the mother he attributes to the production of an antitoxine in her blood, and, considering the mother and the fœtus in utero as one organism, so far as the circulation is concerned, he conceives that the fœtus shares in its beneficial action, but, being deprived of the maternal supply by being born, the child fails to produce it for itself, and falls a prey to an infection which had previously been held under control, while the mother goes on producing the protective substance and remains free from syphilis of a pronounced type.

Mr. Williams recognizes that we do not yet know positively that syphilis is the work of a living, self-multiplying micro-organism, but he evidently has little if any doubt that such is the case, and probably in this the profession in general agree with him. His theory must certainly rest on an assumption of the germ doctrine of the ætiology of the disease.

INTRA-UTERINE INJECTIONS AND EXTRA-UTERINE PREGNANCY.

THE view taken by Professor E. F. Fabbri (*Atti della Società italiana di ostetricia e ginecologia*, 1898; *Gazzetta medica lombarda*, May 29, 1899) that in a case of tubal gestation observed by him the arrest of the ovum in the Falloppian tube was due to the use of intra-uterine injections seems not unreasonable. His theory is that they aggravated the normal changes in the tube incident to gestation and set up a catarrh which was instrumental in retaining the ovum.

THE VERRUGAS OF PERU.

THIS curious affection, also known as Carrion's disease, after a luckless young physician who lost his life in consequence of having inoculated himself with it, has been made the subject of a monograph by Dr. E. Odriozola. The author thinks malarial parasites are found only in cases in which there are malarial complications, but a reviewer in the *Centralblatt für innere Medicin* for June 17th, Dr. Scheube, of Greiz, thinks there is a closer connection than this between malaria and verrugas. Dr. Maurice Letulle, who did the histological part of Odriozola's work, found, together with ordinary pyogenic cocci, bacilli resembling those of tubercle, and perhaps these are the cause of the disease, says Scheube.

REJUVENESCENCE OF THE HAIR.

PERHAPS the restoration of gray hair to its original color without the use of a dye is as rare as sudden blanching of the hair. Several cases, however, have been reported within the last twenty years, as is shown in the *Medical and Surgical Review of Reviews* for May. The writer cites Dr. J. Foustanos, the editor of *La Grèce médicale,* as suggesting the following explanation: Pigment is formed in the deep layer of the epidermis all through life, but in old age it fails to be conveyed to the hair; if, however, the capability of transfer is restored, the hair regains its original color. This explanation, it must be confessed, leaves something to be desired.

"TIRED OVARIES AND A HUNGRY WOMB."

WE learn from the *British Medical Journal* for June 17th that the midwives of Manchester and the region round that city have formed a society and issued a volume of *Transactions.* From this volume our contemporary gives several specimens. In one of them, from a paper entitled Malthusianism, or Tired Ovaries, the author states that the forty-year-old virgin is rarely healthy, and the same is true of the married woman who resolves to have no more than one or two children—they are both afflicted with "tired ovaries," from constant ovulation, and "a hungry womb."

A MAGISTRATE'S IDEA OF THE DIVISION OF FEES.

A CORRESPONDENT whose communication is published in the *Gazette hebdomadaire de médecine et de chirurgie* for April 30th tells of a scandalous decision by a justice of the peace in a suit brought by a physician to recover certain very moderate fees charged by him for assisting at an operation for cataract and for carrying out the after-treatment. A Paris ophthalmologist happened to be at Joigny, where the case occurred, and he performed the operation, took his fee, and departed. The justice ruled that the family physician should have been paid out of that fee, and declared that it was customary in such cases for the operator to give one third of his fee to the physician in charge. It is to be hoped that the tribunal before which the case is to come up again will not only reverse this justice's decision, but rebuke his impudence in assuming to declare what is customary in the practice of medicine.

THE COMMERCIAL ASPECT OF "CHRISTIAN SCIENCE."

THE *Peoria Medical Journal* for May reprints the following notice from the *Christian Science Sentinel,* signed by Mrs. Mary Baker Eddy and dated March 27, 1899: "It is with pleasure I certify that after months of incessant toil and at great expense Mr. Henry P. Moore and Mr. J. C. Derby, of Concord, New Hampshire, have brought out a likeness of me far superior to the one they offered for sale last November. The portrait they have now perfected I cordially indorse. Also I declare their sole right to the making and exclusive sale of the duplicate of said portrait. I simply ask that those who love me purchase this portrait." Our Peoria contemporary calls upon those "who yet think that our 'Christian Science' sisters and brethren are not controlled in their activities by the commercial spirit" to interpret the notice—and well it may.

"A SPECIES OF KIDNEY TROUBLE."

ONE of the newspapers recently spoke of the death of a well-known citizen as having been due to acute nephritis, which he "developed" from chronic nephritis, "a species of kidney trouble." It is marvelous that the writer failed to state what "superinduced" the fatal illness.

SCARLET FEVER AT WEST POINT.

EVERY American citizen who is worthy to be one will feel a pang of regret at learning that the festivities that are annually held at the military academy at this time of the year are likely to be dampened this year by the occurrence of a number of cases of scarlet fever among the cadets and the enlisted men. The outbreak is particularly to be regretted on account of its interfering with the reception that had been planned for the naval cadets.

THE "KISSING BUG."

FOR a number of days past the newspapers have busied themselves with chronicling the dire work imputed to an insect which, being not yet identified by the entomologists, is popularly spoken of as the "kissing bug," from its predilection for the lips of its human victims. Its bite or sting seems to be productive of unusually severe phlegmonous inflammation.

THE TRANSPORT *McCLELLAN.*

IT is very gratifying to learn that the yellow-fever patients on board the transport *McClellan,* which has been detained in quarantine for more than a week, are convalescent. This result will doubtless much encourage the health officer, Dr. Doty, in the use of the antitoxine that has been employed in these cases.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending July 8, 1899:

DISEASES.	Week ending July 1.		Week ending July 8.	
	Cases.	Deaths	Cases.	Deaths.
Typhoid fever	30	8	16	10
Scarlet fever	93	8	125	7
Cerebro-spinal meningitis	0	5	0	4
Measles	278	8	216	13
Diphtheria	191	31	191	42
Croup	11	7	10	6
Tuberculosis	140	139	98	140
Small-pox	7	0	3	1
Chicken-pox	19	0	12	0

The St. Louis Medical Society.—At the last regular meeting, on Saturday, July 8th, the order for the evening was as follows: A continuation of the paper by Dr. Thomas F. Rumbold, entitled Fifty Years' Study and Practice of Rhinology, from 1849 to 1899; and Appendicitis from a Medical Standpoint, by Dr. I. N. Love.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the supervising surgeon-general of the United States Marine-Hospital Service for the week ending July 8, 1899:

Small-pox—United States.

Savannah, Ga	June 18	5 cases.	
Chicago, Ill	June 24-30	2 "	
Evansville, Ind	June 24–July 1	6 "	
Louisville, Ky	June 24 30	4 "	
New Orleans, La	June 24–July 1	2 "	1 death.
Shreveport, La	June 24–July 1	1 case.	
Boston, Mass	June 30–July 1	2 cases,	1 "
Fall River, Mass	June 27	1 case.	
New York, N. Y	June 24–July 1	7 cases.	
Charlotte, N. C	June 24-July 1	2 "	
Cincinnati, Ohio	June 23-30	1 case.	
Cleveland, Ohio	June 24–July 1	2 cases.	
Portland, Ore	June 29–to date	4 "	
Allegheny County, Pa	June 3–26	11 "	
Belle Vernon, Pa	June 3–26	1 case.	
Brownsville Township, Pa	June 3–26	34 cases.	
Cambria County, Pa	June 3–26	22 "	
Clearfield County, Pa	June 3–26	1 case.	
Fayette County, Pa	June 3–26	10 cases.	
Jefferson County, Pa	June 3–26	3 "	
Philadelphia, Pa	June 3–26	40 "	
Somerset County, Pa	June 3–26	.9 "	
Washington County, Pa	June 3-26	11 "	
Westmoreland County, Pa	June 3–26	Several.	
Penn Station, Westmoreland County, Pa	June 3–26	1 case.	
Norfolk, Va	July 2	1 "	
		To date, 825 cases.	
Wallawalla, Wash	June 29	8 "	
Benwood, W. Va	July 1	1 case.	

Small-pox—Foreign.

Antwerp, Belgium	June 10–17	3 cases,	1 death.
Bahia, Brazil	June 10–17	1 case.	
Rio de Janeiro, Brazil	May 19–26		16 deaths.
Hongkong, China	May 6–27	3 cases,	2 "
Havana, Cuba	June 29		1 death.
Liverpool, England	June 10–17		1 "
London, England	June 10–17	1 case.	
Gibraltar	June 5–11	1 "	
Athens, Greece	June 10–17	22 cases,	7 deaths.
Bombay, India	May 27–June 5		4 "
Calcutta, India	May 13–20		1 death.
Mexico, Mexico	June 3–25	25 "	18 deaths.
Moscow, Russia	June 3 10	11 "	11 "
Odessa, Russia	June 10–17	7 "	1 death.
St. Petersburg, Russia	June 3–17	28 "	12 deaths.
Warsaw, Russia	June 3–10		1 death.
Glasgow, Scotland	June 10–17		1 "
Straits Settlements, Singapore	Apr. 1–30		13 deaths.
Smyrna, Turkey	June 11–18	Reported.	

Yellow Fever—Foreign.

Grand Basse, Ivory Coast, Africa		Reported present.	
Bahia, Brazil	June 3–17	70 cases,	36 deaths.
Rio de Janeiro, Brazil	May 19–26		10 "
Panama, Colombia	June 16-23	8 "	3 "
Havana, Cuba	June 15	6 "	1 death.
Matanzas, Cuba	June 17–24	1 case (doubtful).	
Santiago, Cuba	July 3	100 cases,	20 deaths.
		Principally among troops.	
Cordova, Mexico	June 21	23 cases,	14 deaths.
Merida, Mexico	July 1	1 case.	
Mexico, Mexico	June 3–25		2 "
Vera Cruz, Mexico	June 22–29		33 "
San Salvador, San Salvador	June 30	Reported present.	

Cholera.

Calcutta, India	May 13–27		46 deaths.
Kurrachee, India	May 10–17	29 cases.	

Plague.

Hongkong, China	May 6–27	319 cases,	293 deaths.
Alexandria, Egypt	June 16 to date	32 "	10 "
Bombay, India	May 30–June 6		66 "
Calcutta, India	May 13-27		64 "
Kurrachee, India	May 14–18	50 "	
Mauritius, India	May 4–22		5 "
On Japanese S. S. *Nippon Maru*, from Hongkong and Japanese ports, for San Francisco	May 26		1 death.

Change of Address.—Dr. V. A. Robertson, to No. 834 Union Street, Brooklyn.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 1 to July 8, 1899:*

GIBSON, ROBERT J., Major and Surgeon, will report to the chief surgeon for temporary duty during the absence of RAYMOND, THOMAS U., Captain and Assistant Surgeon. Major Gibson will take station temporarily in San Francisco.

GIRARD, ALFRED C., Major and Surgeon, is assigned to the command of the new general hospital, Presidio of San Francisco, and, in addition, he will take command of the old general hospital at that post, relieving MATTHEWS, W. S. H., Major and Brigade Surgeon, United States Volunteers.

HOWARD, DEANE C., Captain and Assistant Surgeon, is detailed temporarily as a member of the army retiring board ordered to meet at Governor's Island, New York, during the absence of BYRNE, CHARLES C., Colonel and Assistant Surgeon-General, temporarily relieved.

KENNEDY, JAMES M., Captain and Assistant Surgeon, will, on account of illness, remain at the Presidio, San Francisco, for temporary duty.

The following officers of the medical department will repair to San Francisco for assignment to temporary duty: FLAGG, E. B., Captain and Assistant Surgeon; DUTCHER, BASIL H., First Lieutenant and Assistant Surgeon; DEAN, ELMER A., First Lieutenant and Assistant Surgeon; GREENLEAF, HENRY S., First Lieutenant and Assistant Surgeon; RASH, OTWAY W., First Lieutenant and Assistant Surgeon.

MATTHEWS, WILLARD S. H., Major and Surgeon, United States Volunteers, will proceed to Manila.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending July 8, 1899:*

PLUMMER, RALPH W., Assistant Surgeon. Appointed Assistant Surgeon from June 17, 1899.

WISE, J. C., Medical Inspector. Granted leave of absence for three months on account of sickness.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending July 6, 1899:*

MURRAY, R. D., Surgeon. To defer departure to Key West, Florida (as directed by bureau letter of May 15, 1899), until further orders, and to proceed to New Orleans, Louisiana, for special temporary duty.

WASDIN, EUGENE, Surgeon. To proceed to Norfolk, Virginia, and assume temporary charge of the service at that port not later than July 17, 1899.

McAdam, W. R., Assistant Surgeon. Bureau letter of May 15, 1899, relieving Assistant Surgeon McAdam from duty at Key West, Florida, revoked and directed to reassume command of the service at Key West.

Robinson, D. E., Assistant Surgeon. Relieved from duty at Chicago, Illinois, and directed to proceed to Mobile, Alabama, and report to the commanding officer for duty and assignment to quarters.

Altree, G. H., Acting Assistant Surgeon. Granted leave of absence for four days.

Bean, L. C., Acting Assistant Surgeon. Granted leave of absence for two days.

Appointment.

McIsaac, Frederick C. Appointed Acting Assistant Surgeon, United States Marine-Hospital Service, for duty at Evansville, Indiana.

Resignation.

Brunner, W. F., Sanitary Inspector. Resignation accepted as tendered, to take effect June 30, 1899.

Births, Marriages, and Deaths.

Born.

Reynolds.—In Ellenburg, New York, on Saturday, July 8th, to Dr. and Mrs. H. H. Reynolds, a daughter.

Married.

Brown—Merrill.—In Everett, Massachusetts, on Monday, July 10th, Dr. Roscoe Ellsworth Brown and Miss Harriet Sophia Merrill.

Cooper—Sprague.—In Jersey City, on Wednesday, July 5th, Mr. Charles P. Cooper and Miss Olive A. Sprague, daughter of Dr. Seth B. Sprague.

Kingman—Cheever.—In Portsmouth, New Hampshire, on Thursday, July 6th, Dr. James H. Kingman, of Pawtucket, Rhode Island, and Miss Mary T. Cheever.

McPhee—Wells.—In New York, on Saturday, June 24th, Dr. John Joseph McPhee and Miss Louise Z. Wells.

Richardson — Toledano. — In New Orleans, on Saturday, July 8th, Dr. Farrar Richardson, United States Marine-Hospital Service, and Miss Corinne Toledano.

Slocum—O'Brien.—In Long Branch, New Jersey, on Thursday, June 29th, Dr. William H. Slocum and Miss Annetta O'Brien.

Tillinghast—Forbes.—In Providence, Rhode Island, on Wednesday, June 28th, Dr. Frank A. Tillinghast and Miss Anna M. Forbes.

Died.

Brown.—In Weedsport, New York, on Friday, June 23d, Dr. Ira D. Brown, in the sixty-eighth year of his age.

Clendenin.—In Santiago de Cuba, on Wednesday, July 5th, Dr. Paul Clendenin, United States Army.

Edwards. — In Charleston, South Carolina, on Tuesday, July 4th, Dr. John J. Edwards, in the forty-second year of his age.

Lyon.—In New York, on Sunday, July 9th, Louise Lyon, wife of Dr. Samuel K. Lyon.

McKenzie.—In Tatum, South Carolina, on Thursday, June 29th, Mrs. J. C. McKenzie, wife of Dr. John C. McKenzie.

Neilson.—In New Rochelle, New York, on Thursday, July 6th, Dr. William H. Neilson.

Wright.—In Orange, Massachusetts, on Saturday, June 24th, Dr. Walter M. Wright, in the fifty-third year of his age.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XXVII.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(*Continued from page 62.*)

Best Judgment Required.—It will be remembered that the general standard of professional requirements is that the physician must possess a reasonable degree of knowledge, skill, and experience; second, that he must exercise ordinary care and diligence; and third, that he will use his best judgment in all cases of doubt. Having scrutinized the first two requirements of this standard, attention will now be particularly given to the third.

It may be considered an axiom, *de facto* as well as legal, that one can not use good judgment in the treatment of a case without first possessing the adequate amount of knowledge and skill and exercising the proper degree of care. Dr. McClelland,* in his collection of malpractice cases, cites the case of Courtney *vs.* Henderson, decided in the marine court of New York, in which a man, fifty-seven years of age, who had been under the care of an eye infirmary for eight weeks, was induced to withdraw from that institution and put himself under the defendant's treatment. While in the infirmary there was a gradual improvement of his eyes, but soon after placing himself under the care of the defendant the improvement ceased, the disease became more aggravated, and the eyesight gradually failed. The defendant treated the eyes about three months, and during this time performed an operation upon them and put some kind of powder into them. At the end of the three months' treatment the plaintiff returned to the eye infirmary, but his vision was gone, never to return. The only expert evidence offered was that of two physicians from the infirmary, who testified that they had no doubt the plaintiff would have recovered under proper treatment. They also testified to their mode of treatment in such cases, which differed materially from that of the defendant. It seems that no expert evidence was offered showing that the defendant's treatment was either skillful or proper, nor any evidence to show that he was a qualified physician and surgeon. The defendant's counsel urged that the failure of the defendant to properly treat the plaintiff was the result of an error in judgment, and for that he was not liable. The court held that this was a good defense when applied to one skilled in the science of medicine, but that the defendant, knowing nothing of anatomy, surgery, or physics, was incapable of having judgment in the matter. The court accordingly affirmed the judgment rendered in favor of the plaintiff and against the defendant for malpractice.

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* McClelland on *Civil Malpractice*, p. 273.

The law, it has been observed, requires only that the knowledge possessed and the care and skill exercised shall be "ordinary" or "usual," but the judgment must be the physician's *best judgment*. What is one's best judgment is, from the nature of the case, absolutely impossible to determine, the judgment of no two men being the same in all respects. Because of the uncertainty of a rule of liability based upon the judgment of the party whose actions were the subject of litigation, an English court refused to entertain the plea that an error of judgment was a defense. Justice Tindal, in that case, said: "Instead, therefore, of saying that the liability for negligence should be coextensive with the judgment of each individual, which would be as varied as the length of the foot of each individual, we ought rather to adhere to the rule which requires in all cases a regard to caution such as a man of ordinary prudence would observe." * The justice did not, at the time of uttering these words, have in mind the judgment of a professional man exercised in performing the functions of his profession, yet the principle will apply, for the exercise of judgment must be such as not only to preclude the idea of professional incompetency and of a want of reasonable care, but the judgment itself must be consistent with the use of that degree of skill that it is the duty of every surgeon to bring to the treatment of a case, according to the standard of skill and care indicated.† For this reason nothing short of one's best judgment will be adequate.

A physician who possesses the requisite amount of knowledge and skill, and exercises his best judgment in determining upon such treatment as experience has shown him to be best, is not liable in damages from an injury resulting from an error of judgment.‡ Such judgment, in order to be a complete protection to the physician, must, however, have been exercised in a case where competent physicians might honestly doubt as to the nature of the disease or the proper method of treating it. In such a case all that the law requires is that a physician shall summon to his assistance all of his knowledge and skill, and in the light of their aid exercise his best judgment. If, however, the case is such a one that no physician possessing ordinary knowledge and skill would doubt or hesitate, and but one course of treatment would be suggested by a competent professional man, then any other course of treatment might be evidence of a want of ordinary knowledge or skill, or proper care or attention.# In determining whether or not a physician may safely exercise his judgment in a given case he should first consider his general qualifications as a practitioner of medicine and his competency to handle the particular case; for if he is competent to treat the case, but is in doubt as to the nature and extent of the injury or the proper mode of treatment, he is justified, and it is his duty, to use his best judgment in deciding upon the nature of the disease or injury and fixing upon a course of treatment, and also as to whether or not he will consult with some other physician and surgeon. But if, on the other hand, he is not competent to treat the case, or feels that he is not competent, he should recommend the patient to some other physician.*

Theoretically, it is not difficult to lay down a rule which commends itself both to our reason and our sense of justice, defining those errors of judgment from which no cause of action should arise. Such a rule is the one laid down by Justice Richmond, which is that "Physicians are not responsible for the errors of an enlightened judgment, where good judgments may differ; and I can come to no other conclusion than that, when there are reasonable grounds for doubt and difference of opinion, the professional man, after the exercise of his best judgment, admitting that he possesses the necessary knowledge, is not responsible for errors of judgment or mistakes, and is only chargeable with errors which could not have arisen except for the want of or the exercise of reasonable skill and diligence."# But it is in the practical application of such a rule that the difficulty lies. What things must the physician know as a matter of knowledge and what may he assume through the exercise of his best judgment? In the case of Du Bois *vs.* Decker || the plaintiff had a portion of his foot crushed beneath the wheels of a locomotive. The physician, hoping to save the foot, deferred amputation for nine days; then, seeing that the foot could not be saved, amputated the leg just above the ankle. Shortly afterward gangrene appeared, rendering further operation necessary. At the trial evidence was given tending to show that the bones of the foot were so crushed that immediate amputation of the injured portion was necessary, and that the appearance of gangrene was in consequence of the delay in operating. The counsel for the defendant claimed that the defendant, in the exercise of his best judgment, believed the foot might be saved, and that he could not be held liable for an error of judgment. But the court failed to agree with the defendant's counsel; it said: "But his judgment must be founded upon his intelligence. He engages to bring to the treatment of the patient care, skill, and knowledge, and he should have known the probable consequences that would follow from the crushing of the bones and tissues of the foot." On the other hand, if the injury sustained in such a case were not so serious as to preclude the probability of the recovery of the injured member, and the defendant were to produce competent and skilled physicians at the trial to testify that a recovery might be reasonably expected, and that the course of treatment adopted by the defendant was proper or best calculated to effect a recovery, then no reason can be seen why the defendant should not have been released from all liability.

A physician in the exercise of his judgment is not bound to anticipate or foresee any unusual or improbable result of his treatment. In the case of Bogle *vs.* Winslow,* the plaintiff, who had a few days previously received a severe blow on the head, called upon the defendant, a dentist, for the purpose of having some teeth extracted. The defendant administered chloroform and took out the teeth. A few hours afterward the plaintiff complained of numbness of one side, which in a few days was followed by a stroke of paralysis. The plaintiff brought suit against the dentist, claiming that the paralysis was the direct result of the chloroform. Considerable expert evidence was given, most of it to the effect that paralysis could not result from the use of chloroform. Some testified that it might result from the use of such an anæsthetic. There was also evidence that the severe blow on the head received by the plaintiff might have produced a latent disease only requiring some exciting cause to rouse it into activity.

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* Vaughan *vs.* Menlove, 3 Bing., N. C., 468.

† West *vs.* Martin, 31 Missouri, 375.

‡ Van Horser *vs.* Berghoof, 90 Mo., 488.

# Patten *vs.* Wiggin, 51 Me., 594.

* Mallen *vs.* Boynton, 132 Mass., 443.

† Burnham *vs.* Jackson, 1 Colo. App., 237.

‡ Du Bois *vs.* Decker, 130 N. Y., 325.

# Bogle *vs.* Winslow, 5 Phil. (Pa.), 136.

The judge was of the opinion that if the administering of the chloroform or the extraction of the teeth was the cause of plaintiff's paralysis, still it would not be just to make the defendant answer in damages for consequences which he could not foresee, and which were not the ordinary or probable result of what he did. The jury was so instructed and found a verdict for the defendant.

The rule that a physician is bound to exercise his best judgment being one of universal application, it necessarily follows that when he is called upon by a patient to perform an operation which in his judgment is unwise or unnecessary, he is bound to advise against such operation whether his opinion is asked or not. In the case of Gramm *vs.* Boener * the defendant had set the plaintiff's arm. Several weeks after, the bones appeared slightly out of place, either from having become displaced or from not having been originally accurately adjusted. The plaintiff asked the defendant to rebreak and readjust the bones, but the defendant advised against the operation. He told the plaintiff that to rebreak the bones would be of no use; that it had better be left alone, and that he ought not to think of it. But upon the plaintiff's insistence, he finally performed the operation. The result was so unsatisfactory that suit was brought. In the supreme court, upon the appeal of the case, the question arose whether the defendant was justified in finally deferring to the judgment of the patient and breaking the arm, or whether he should have refused to operate altogether when such an operation was contrary to his own best judgment. The supreme court was of the opinion that the defendant had incurred no liability under the circumstances in operating. Upon this question Justice Worden said: "But if a surgeon, when thus called, advises a patient who is of mature years and of sound mind that the operation is unnecessary and improper—in short, advises against the performance—and the patient still insists upon the performance of the operation, in compliance with which the surgeon performs it, we do not see upon what principle the surgeon can be held responsible to the patient for damages, on the ground that the operation was improper and injurious. In such cases the patient relies upon his own judgment, and not upon that of the surgeon, as to the propriety of the operation; and he can not complain of an operation performed at his own instance and upon his own judgment, and not upon that of the surgeon."

If in the physician's best judgment it is advisable to withhold from a patient in a particular emergency a knowledge of the danger and extent of his disease, he will be justified in so doing. So, when a physician, in attending a patient who was suffering from a felon, told her that her hand was doing well, and that she ought to be thankful that it was so well, he was held to have incurred no liability thereby, it not appearing that the patient desired to secure counsel, or was deterred by the physician's statement from so doing.†

Nor is there any legal necessity that the physician should acquaint the patient with the character of the operation or treatment he proposes to employ.* The advisability of such a step is purely a matter of judgment, and in such matters the exercise of the physician's best judgment is all that the law requires.

(To be continued.)

Pith of Current Literature.

An Internal Plate for Ununited Bones.—Potarca (*Presse médicale,* April 19; *Medical News,* July 1st) cuts down upon an ununited fractured bone, squares the two ends, and holds them in a correct position, closely approximated, by a thin metal plate which is screwed fast to each fractured end, just as one might mend a broken cane. The after-treatment is very simple. Held together so accurately, the bones quickly unite, and when union is sufficiently solid, the plate is exposed by a new operation, the screws taken out, the plate removed, and the new wound allowed to heal. There are no complications to be feared if the plates are capable of being sterilized and are made of some metal which will not decompose or form poisonous salts in the fluids of the human body. Nickel, almost pure, answers these requirements better than silver, platinum, aluminum, or copper. This method of treatment is also recommended in recent fractures in which reduction can not be obtained or can not be maintained. Thanks to the X ray, the relations of the ends of the bone can be determined with exactness, and an immediate operation be performed if it is found to be desirable.

The Parasite of Cancer.—Dr. William Russell (*Scottish Medical and Surgical Journal,* May) says that increasing clinical and pathological experience only deepens his conviction of the infectivity of cancer. He is fully aware that many minds are ranged on the other side, including some of his personal friends; but he consoles himself by remembering that it took some of his friends almost a decade to accept the *Bacillus tuberculosis* as the ætiological factor in tubercle. The author's present purpose is confined to the question of the infective element.

Up to 1890, Albarran, Darier, Thoma, Wickham, and Sjöbring had described structures in the cells of cancer which they believed to be parasitic, and all of them with the exception of Thoma regarded the parasite as belonging to the protozoa.

Dr. Russell in 1890 described what he believed to be a parasitic organism in cancer. The organism was described both in an extracellular and an intracellular form. They were held by him to be blastomycetes, and he provisionally called them "fuchsin bodies." The subject was taken up with considerable ardor, and it was found that bodies similar in appearance to the *extracellular* forms described occurred in morbid conditions other than cancer. Some of the observations by others were correct, some were wrong, as sufficient allowance was not always made for the care with which the author had excluded the possibility of the extracellular forms being some of the things they were said to be. Still the fact remained that identical bodies were found in other morbid conditions, and this fact became a stumbling-block. After this, other work appeared which dealt with the *intracellular* structures in cancer cells, and in which it was attempted to differentiate the intracellular appearances into organisms, degenerations of cell protoplasm, or degenerations of cell inclusions not parasitic. The organism was regarded by these observers as a sporozoon, or at all events an amœboid parasite. A considerable array of observers, including Bergonzini, Klein, Raum, Hauser, Shattock and Ballance, Goldmann, Rossi, Touton, Mantegazza, Pelagatti, etc., contended that the appearances described were the result of degeneration of one kind or another, or of something else. The variety of explanation has been great, and it is not going too far to say that the effect was that the current view has been that all work contending for the parasitic nature of the appearances was either wrong or wrongly interpreted. When Ruffer brought forward his work at the annual meeting of the British Medical Association Dr. Russell stated that his preparations were so beautiful that it was vain to continue the subject from the morphological standpoint, as nothing more could be made of it; that the two opinions would continue to be held—namely (1) that they were parasites, and (2) that they were merely degenerations. Experimental work by those whose circumstances permitted them to pursue the subject could alone settle who was right.

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* Gramm *vs.* Boener, 56 Ind., 495.

† Twombly *vs.* Leach, 65 Mass., 397.

* Boydston *vs.* Giltner, 3 Ore., 118.

Within the past few years experimental work has been, in the author's opinion, gradually determining this question. To investigators in Italy we are indebted for its elucidation.

The honor and the credit of the experimental work belongs, in the first place, to Professor Francesco Sanfelice, director of the institute of hygiene in the Royal University, Cagliari. Before entering on an account of his work, it is necessary to state that when the author published his paper the dictum of pathologists was that the blastomycetes were not pathogenic, and this authoritative dictum ruled men's minds as dicta of the kind usually do.

Sanfelice's Discovery of a Pathogenic Blastomyces.—Sanfelice was engaged in investigating the morphological and biological characters of blastomycetes when he found that one of these was pathogenic, and was interesting not from this fact alone, but from the further fact of its morphological resemblances to the bodies which had been described as cancer coccidia. He then, apparently, looked more fully into the literature of pathogenic blastomycetes, and from this it appeared that Neumayer and Raum had both experimentally inoculated animals with pure cultures, but without results of importance. Busse had described a case diagnosticated as sarcoma of the tibia, in which numerous cells were found, which Loeffler cultivated and pronounced to be blastomycetes. Experimental inoculation with these only proved that the parasite was capable of reproduction in the animal body. Mafucci and Sirleo described a blastomyces obtained from a guinea-pig with which they were able to inoculate other guinea-pigs.

This seems to have been the position as regards pathogenic blastomycetes, when Sanfelice began the investigations to which special reference is to be made.

The special organism with which Sanfelice experimented he has called the *Saccharomyces neoformans.* Inoculation of guinea-pigs with it showed that wherever inoculation was performed the result was a general infection of the animal with the formation of tumors, consisting partly of masses of the parasite and partly of proliferation of the cells of the part. The infection spread by the lymph and blood channels and did not cause inflammation. The animals usually died within a month; and Sanfelice noted that in the tissues the parasite had a somewhat different appearance to what it had in cultures. The appearances of this parasite in the tissues of guinea-pigs had a great resemblance to the bodies found in human malignant growths by many observers. Most of these authors believed these bodies to be coccidia, and it was by Russell alone that the bodies were believed to be blastomycetes. In mice, inoculation led to a rapid infection with great multiplication of the parasite. In white rats the process was slower, the animals dying after a month and a half to two months, and with more reaction on the part of the tissues. In rabbits, only two out of twelve inoculated died, and in the fatal cases the parasites were fewer in number, but there was more proliferation of the tissue elements than in the other animals. Out of thirty dogs inoculated, only two developed a tumor at the point of inoculation and metastasis in internal organs. One of these dogs was killed after four months, the other died after ten months. The pathological changes in the first dog consisted in the development of a nodular tumor in the mammary gland where the inoculation had been made, with enlargement of neighboring lymph glands. The changes were like those of a sarcoma. Very few parasites were found, and no cultures could be obtained from any of the tissues. In the second dog the growths were different, but Dr. Russell has so far failed to find an account of the anatomical changes present in it. In fowls the parasite presented a different appearance to the appearance in the other animals.

The Morphological Characters presented by the Blastomycetes when Inoculated into Animals.—In a paper dated September, 1897, on the Experimental Production of Russell's Fuchsin Bodies, Sanfelice says that until that time among the animals he had inoculated with *Saccharomyces neoformans* it was only in dogs that the blastomyces appeared in the typical forms as described by Russell under the name of "fuchsin bodies." Russell described them as certain structures which he could almost always demonstrate in carcinomata. They were almost spherical, four to twelve millimetres in diameter, homogeneous, and without a trace of structure. They lay almost always in groups of three to twenty elements; some of them were bounded by a thin rim of cell protoplasm, while the majority lay in a clear area in a kind of vacuole. They were met with either in the cancer cells or in the stroma. Russell believed these to be parasites, and classed them under the blastomycetes or sprouting fungi.

Sanfelice goes on to say that since the previous year he has been inoculating various animals with pure cultures of the *Saccharomyces neoformans,* and had noted that in certain cats which died after some months the blastomycetes inside the tissues took the typical forms of Russell's bodies, and in view of the appearance of the works of investigators who denied that Russell's bodies were blastomycetes he proceeds to report on the manner in which the parasites appear in these particular animals.

When he ascertained that after injection of pure cultures of *Saccharomyces neoformans* in cats, typical Russell's bodies appeared in the tissues, he investigated the tissues of normal cats, but in no case found Russell's bodies. After inoculation with *Saccharomyces neoformans*, the fuchsin bodies were invariably found, and, moreover, presenting the same form and arrangement, and with the same reaction to coloring material, as the bodies which Russell and others had described as occurring in malignant tumors.

In the inoculated cats the fuchsin bodies appeared in greatest number in the lymph glands of the mesentery, in the spleen, and in the bone marrow. They were easily recognized, being perfectly round in form, and in size varying from that of a micrococcus to that of a leucocyte. As regards structure, some of the bodies showed a differentiation of the chromatic substance, while others took on the stain homogeneously, with more or less intensity. The bodies with differentiated chromatic substance possessed either a kind of circle or an intensely colored membrane with a less intensely colored central part, or they showed a deeply colored centre surrounded by a circle only faintly colored, or not colored at all, and varying in breadth. The homogeneously colored forms took on a more or less deep color.

In many of the parasites multiplication by *budding* might be seen, in the same way as is seen in artificial cultures. The buds grew from the smaller elements as well as from the larger, and might or might not remain attached until they attained the full size.

In the tissues of cats the blastomycetes were found either lying free or inside the cells. The free forms lay between newly formed cell elements, and usually in groups, seldom singly. The number of parasites in one group varied. Sanfelice has counted as many as thirty in one group. Sometimes these were so closely clustered as to present a mulberry appearance; sometimes they lay separated from each other, and, moreover, at such equal distances that it seemed as if some cement substance kept them at equal distances and prevented direct contact of the deeply colored substances. Occasionally one could see quite distinctly that this apparent cement substance was formed from the circles or hyaline membranes, which by touching each other concealed the outlines of their peripheries. In some groups of blastomycetes the hyaline membranes were very apparent, and their borders were distinctly seen.

The endocellular parasites were usually much smaller than the free forms. The number of inclosed parasites varied as did the free forms, and they presented the same appearances. According to the position in which the cell containing the parasites was seen by the observer, the nucleus appeared either pushed to one side, or in the centre of the cell, surrounded by parasites. Small parasites in considerable numbers were often found lying close together in a ground substance, without any nucleus visible. Perhaps in these cases the nucleus lay under the parasites, so that the eye of the observer could not detect it. Another feature was the fact that they were found in the neighborhood of young, newly formed cells, and did not appear in the parts where the cells were undergoing degeneration. Sanfelice concludes by stating that this communication is intended to prove: 1. That all authors who contend that Russell's fuchsin bodies are not blastomycetes have not hitherto brought forward experimental proof that they are cellular degenerations. 2. That through the inoculation of cats with pure cultures of *Saccharomyces neoformans* the typical bodies are produced which have been described by Russell and others as occurring in malignant tumors in man, and in certain chronic inflammatory processes. 3. That these fuchsin bodies are not found in normal cats, but only appear in these animals when they are inoculated with pure cultures of *Saccharomyces neoformans*, or with pieces from the tissues of cats containing the typical forms of Russell's bodies.

Sanfelice states that the pathogenic blastomycetes hitherto cultivated closely resemble one another on artificial media and in morphological appearances, while at the same time their pathogenic action varies widely.

The Experimental Production of Epithelial Tumors and Metastatic Epithelial Growths.—The next still more interesting point was to ascertain whether the injection of these blastomycetes into animals susceptible to malignant tumors would bring about the formation of neoplasms similar to the malignant tumors observed in man. Sanfelice approached the solution of this problem by passing the blastomyces with which he was experimenting through a number of dogs—that is, from dog to dog. By this method he arrived at positive results in two cases. In one of these the dog had been inoculated in the two posterior nipples, with the blastomyces which had been passed through several dogs. After a slight inflammatory reaction at the site of inoculation the nipples remained apparently normal until about a month after the operation, when signs of a neoplastic process became evident. The animal died ten months later, with marked cachexia, tumors in both teats, showing retraction of the nipples and tacking down of the skin, and secondary growths in the inguinal and abdominal lymphatic glands. All these showed the typical structure of adeno-carcinoma. Sanfelice's colleagues Biondi and Carboni confirmed this opinion. No parasites were observed in the centre of the primary tumors. A few were observed in the peripheral part of the primary tumor, and in the metastases in the glands. Sanfelice could obtain no cultures from any of these growths: the explanation he offers of this is that when the parasite has so grown accustomed to its surroundings as to take on the typical characteristics of Russell's bodies, and to become capable of producing malignant tumors, from that time it becomes incapable of growing in artificial media, meaning by this the ordinary media on which he had grown his *Saccharomyces neoformans.* In order to be grown artificially the parasite must occur in the form in which it occurs in guinea-pigs, etc.—that is, in the form usually found in infections running a rapid course, and seldom in those running a more prolonged course. If blastomycetes are isolated from malignant growths of man or animals Sanfelice holds that they must have been present in the growth in both forms.

Further inoculation experiments were given, but these need not be given in detail. It is sufficient to state that a few positive results were obtained by inoculating dogs from the new growth in one of the cases referred to above.

Inoculation into the Circulation and Abdominal Cavity of Dogs and Cats.—Inoculation of dogs in the jugular vein led in the course of from one month to a month and a half to connective-tissue changes in which the parasite was present in small numbers and in its cultivable form. In the case of cats, Sanfelice found that the *Saccharomyces neoformans* inoculated into the abdominal cavity or veins brought about the same changes as he had observed in the bodies of dogs inoculated in the same way. In the case of cats, he confirmed his opinion that when the parasites had been long enough in the body to assume the typical forms of Russell's fuchsin bodies they were no longer cultivable in artificial media. If, however, the cats were killed soon after inoculation, cultures could be obtained, the parasite then presenting the forms which occurred in guinea-pigs and rabbits where the infection ran a more acute course. One of the conclusions Sanfelice draws from his experimental work with the *Saccharomyces neoformans* is that it appears in the tissues of animals in two forms. In one form it possesses a capsule and is cultivable in artificial media. In the other it has no capsule, is identical with the fuchsin bodies of Russell, and can not be cultivated in artificial media. This second form is only observed in the organism when the parasite has lived in it for some time.

Roncali's Histological Contribution. — Professor Roncali, of Rome, has taken a leading part in the appreciation of Sanfelice's work and has published important papers on the histological appearances in some malignant tumors in man. He was attracted by the fact that in a case of adeno-carcinoma of the ovary there were appearances identical with those described by Sanfelice, and he came to the conclusion that they were due to the same cause, the presence of a parasitic blastomyces. He also noted the resemblance between the appearances in his case and those described in cancer and regarded by some authors as parasitic. He acknowledges, with scientific justice and frank generosity, that all authors had seen real parasites, but they had erred in assigning them a place in the animal kingdom, being led, he thinks, by a false prejudice, wishing to see sporozoa, which circumstance had proved the inexhaustible source of all the errors made. He records three cases, two of adeno-carcinoma of the ovary and one of adeno-carcinoma of the colon with secondary involvement of the great omentum and mesentery. In all he found the same appearances, and he has no doubt as to their nature. He describes and figures the parasite both as extracellular and intracellular. From one of his cases he obtained cultures of blastomycetes. Inoculation of guinea-pigs with these cultures caused death of the animal, and the production in many of the organs of little whitish nodules. These were of the nature of granulomata, only with more of the characters of new growth than of inflammatory products. The nodules showed many parasites, young and degenerated, and Roncali found them to be identical with a blastomyces isolated by him from an epithelioma of the tongue. Roncali records a large series of experiments to prove that the parasites had not reached the tissues from the air after removal from the body. He showed by these that dead tissue, whether of normal organs or of tumors, was not suitable for promoting the growth of blastomycetes, and that blastomycetes showed no preference for the tissue of malignant growths. Roncali next discusses the question of the ætiological factor in human neoplasms, and concludes that the genetic connection between the blastomycetes and malignant tumors is proved.

Work of Other Observers.—Busse cultivated a blastomyces from a sarcoma, as has been already referred to. Kahane got pure cultures of a blastomyces from a cancer of the uterus. Mafucci and Sirleo have discussed the blastomycetes as the cause of malignant tumors, but their results are mainly negative, while not denying the possibility of a connection. An important case has been recorded by Corselli and Frisco of sarcoma of the mesenteric glands, from which they were able to isolate blastomycetes which produced similar growths in guinea-pigs, rabbits, and dogs. They got pure cultures of blastomycetes in the patient's lifetime, and after death from fluid from the abdominal and thoracic cavities. Curtis had a case, referred to by Sanfelice and Roncali, of a myxomatous tumor in a man, from which he obtained cultures of blastomycetes, and by inoculation produced a tumor in a rabbit.

Conclusions.—Dr. Russell concludes by saying that to any one going carefully through Sanfelice's work there is only one opinion possible, and that is that it is a very careful and beautiful piece of investigation and research. The links in the chain of evidence are simple and strong, and may be thus summarized: Investigating blastomycetes, he finds appearances similar to those described as occurring in cancer both inside and outside the cells. Working on these lines, he familiarizes himself with the appearances presented by the parasite in the tissues and organs of different animals. He finds that in different animals the pathogenic effect varies from a somewhat rapid infection with great proliferation of the parasite down to a much less acute infection. In dogs, by inoculating them into the peritoneal cavity, he recovers the parasite from the lymph glands and passes them through another dog, and so on. Having in this way modified the parasite by the chemico-vital influences in the dog's body, he inoculates the mammæ and the testicles of dogs with the modified organism, and finds that it produces epithelial growths with metastases.

The success of others in cultivating blastomycetes from tumors, mainly malignant, adds confirmation to Sanfelice's results. Roncali is one of these, but his confirmation is largely from the histological standpoint, and he was avowedly greatly aided in his observations by his acquaintance with the appearances in the tissues produced by inoculation with the *Saccharomyces neoformans* as followed by Sanfelice.

The Influenza Bacillus and Pneumonia.—Dr. W. H. Smith (*Journal of the Boston Society of Medical Sciences*, May), as the result of researches in the clinical pathological laboratory of the Massachusetts General Hospital, arrives at the following conclusions: 1. Cases of pneumonia caused by the influenza bacillus may give few, if any, signs clinically of their presence beyond a moderate degree of fever and a few fine, moist râles, more or less circumscribed. 2. The influenza bacillus by itself is capable of producing pneumonia; however, the pneumococcus is frequently associated with the influenza bacillus in its production. 3. The type of the pneumonia is usually broncho or lobular, frequently consisting of multiple foci, with a tendency to involvement of the lower lobe of the left lung. 4. Upon microscopic examination the exudate is composed largely of cells, chiefly of leucocytes. The amount of fibrin present in the exudate is small. Bacilli usually are present in large numbers inside of the leucocytes, both in the alveolar spaces and in the bronchi.

Delivery of the Arms when Displaced Upward in Breech Cases.—Dr. T. M. Callender (*British Medical Journal*, June 10th) recently attended a case of labor with pelvic contraction, the child presenting transversely. Turning was resorted to and the legs brought down. The uterus was carefully followed with the hand in its descent, and as the pulsations of the cord were only imperceptibly felt traction was made on the legs in the axis of the parturient canals. The arms, however, became displaced upward and could not be brought down by the usual digital method. He therefore knotted a corner of a soft handkerchief and passed it round the shoulder which lay anteriorly, it being most accessible. Then, having pushed the handkerchief along the arm to the elbow, it was kept there by a finger of the left hand while with the other hand he exerted traction on the handkerchief in a direction obliquely across the anterior aspect of the child's body. In this way he managed to pull down the arm without difficulty. The other arm was then easily brought down with the fingers. Dr. Callender considers the method freer from danger than the use of a blunt hook. The danger of causing fracture of the shaft of the humerus or dislocation of the head of that bone is to be avoided by, 1, keeping the handkerchief at the elbow by means of the finger, and, 2, by pulling in a direction obliquely across the anterior surface of the child's body. The "lacque," he says, has been mentioned by authorities as useful sometimes in bringing down a breech, but he has not noticed anything of the kind mentioned as of use in bringing down the arms, hence his reason for publishing the case.

Carbolic Acid as a Test for Albumin.—Dr. Walter Colquhoun (*Lancet*, May 6th) recommends a saturated solution (approximately six in one) of carbolic acid in absolute alcohol as a test equaling in delicacy the nitric-acid test, and as giving perfect satisfaction after a short experience in working with it. Dr. Colquhoun's procedure is as follows: The test solution having been made by dissolving carbolic acid to saturation in absolute alcohol, the author floats a few drops of the solution on the top of the fluid to be tested by means of a pipette. Owing to the greater solubility of carbolic acid in alcohol than in water, the layer of testing fluid on the surface becomes opaque and rather milky looking from the separation of carbolic acid, as water is imbibed in the transfer between the urine and the alcohol. As the alcoholic solution of carbolic acid imbibes more water and becomes heavier, drops also of a milky appearance on their surfaces may detach themselves and fall to the bottom of the test tube. If much albumin is present the whole of the fluid to be tested may become milky, and the alcoholic layer may settle quickly to the bottom of the test tube with large milk-white flakes of albumin attached to it. In the case, however, of the presence of only a small quantity of albumin, the test tube must be allowed to lie for some time just as in the nitric-acid test, and the presence of albumin will be denoted by a milkiness extending to a certain depth below the alcoholic layer. As has already been remarked, milky looking drops of the alcoholic solution of carbolic acid may separate and fall to the bottom of the test tube. This happens even when the alcoholic test solution is floated on top of pure water and, as has been explained, the milkiness is due to the imbibition of water and consequent separation of carbolic acid. That this milkiness is not necessarily due to albumin may be shown, when only a trace of that substance is present, by passing the bottom of the test tube two or three times through the flame of a spirit lamp, when, carbolic acid being more soluble in warm water than in cold, the milky deposit at once clears up. The milkiness at the upper part of the test tube below the alcoholic layer is, however, due to coagulated albumin, and does not appear unless that substance is present, nor is it dissipated by heat.

As regards the fallacies of the test, the author has as yet found none which were not attributable to careless manipulation. Mucin may be precipitated by alcohol, but he has had no trouble owing to its precipitation yet. He clears the urine, preferably by filtering, and it may be remarked in this connection that the best Swedish filtering paper, such as is used for quantitative work, clears urine which a cheaper paper would allow to pass through cloudy. Another point worthy of mention is that cooling for a few moments, as, for example, by playing an ether spray on the upper part of the outside of the containing vessel, will often bring down a cloud of urates before filtering and is besides instructive as regards the degree of saturation of the fluid. In both the nitric-acid and the carbolic-acid tests the urine should be diluted to about specific gravity, 1.010. The proved delicacy of these tests allows plenty of margin for dilution, and if after dilution no albumin is found, its presence is in the author's opinion negligible. Indeed, he has found albumin present in small quantities in the urine of such a large proportion of his patients that he is coming to regard its presence merely as a warning to make a careful examination and a guarded diagnosis. If the urine were always diluted before applying the nitric-acid test the fallacies of that test would probably disappear. In the case of the carbolic-acid test it is important that the fluid tested should not have too high a specific gravity, since in that case the interchange between the alcoholic layer and the fluid tested is too slow. The dilution may be continued to a specific gravity below 1.010 without greatly affecting the result, if such a course is wished. The author says that since he began his investigations he can speak with certainty as to the presence or absence of albumin, whereas before he had undertaken them he would not have liked to certify in certain cases.

Book Notices.

The Diseases of the Lungs. By JAMES KINGSTON FOWLER, M. A., M. D., F. R. C. P., Physician to the Middlesex Hospital, etc., and RICKMAN JOHN GODLEE, M. S., F. R. C. S., Fellow and Professor of Clinical Surgery, University College, London, etc. With One Hundred Illustrations. New York and London: Longmans, Green, & Co., 1898. Pp. xv–715. [Price, $6.]

THE work before us is a most exhaustive study of pulmonary diseases, and, representing as it does the most advanced thought upon the various disorders it treats of and prepared by two observers whose experience has specially entitled them to speak, it is a production of great value.

The arrangement of the volume is not unusual. It opens with a presentation of the anatomy of the parts; to this succeeds a chapter upon physical diagnosis, and then the various disorders of the trachea, bronchi, lungs, and pleura are considered. The character of the book throughout is of great excellence, as has already been said, but neither the form nor the material is of a character sufficiently different from that of several of the recent works upon thoracic disease to require comment in detail. The volume is handsomely prepared and well illustrated, the most serious fault being a type too small for easy reading.

Diseases of the Heart and Aorta. By George Alexander Gibson, M. D., D. Sc., F. R. C. P. Ed., F. R. S. E., Senior Assistant Physician to the Royal Infirmary, Edinburgh, etc. With Two Hundred and Ten Illustrations. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1898. Pp. xx–932. [Price, $6.]

It will, no doubt, be thought that our notice of this work is not commensurate with the importance of the book. This is certainly and undeniably a fact, but it is intentional on our part, since in the space at our command we can not pretend to do the volume justice so far as criticism is concerned. Anything we might say, indeed, would perforce be laudation, for the work is one of those scholarly productions that are all too rare in the medical field, and of an exhaustiveness and a completeness that make it classical. We are nothing less than enthusiastic as regards the book—possibly our readers will think us overenthusiastic, but scarcely, we believe, when they have read the book.

Not only in text is the volume unusual, the publishers' work is beautiful, and never have we seen more excellent illustration in a medical book. The possession of a book like this is a great satisfaction.

Urinary Analysis and Diagnosis by Microscopical and Chemical Examination. By Louis Heitzmann, M. D. With One Hundred and Eight Original Illustrations. New York: William Wood & Co., 1899. Pp. xvii–253.

The feature of this work that commends itself in particular to the practitioner is the stress it lays upon urinary microscopy. Chemical uranalysis, indeed, is not neglected, but the bulk of the volume is devoted to microscopic examination as a means of diagnosis. The concluding part of the book, which is devoted to this sort of diagnosis, is a model for clearness and for straightforward presentation. The text is enriched with many illustrations which have been prepared from drawings. Without exception they are clear and instructive. At first sight it is hard to imagine the claim that a new work upon uranalysis should have to our recognition, for in few branches of medicine are there so many excellent works already, but we must confess that in Dr. Heitzmann's book we find much to admire and a good deal that the others do not contain.

Diet and Food, considered in Relation to Strength and Power of Endurance, Training, and Athletics. By Alexander Haig, M. A. and M. D. Oxon., F. R. C. P., Physician to the Metropolitan Hospital and the Royal Hospital for Children and Women, etc. With Five Illustrations. London: J. and A. Churchill. Philadelphia: P. Blakiston's Son & Co., 1898. Pp. vii–86. [Price, $1.]

This little volume presents with brevity and much force the well-known views of its author upon the subject of dietetics. In no respect is it a departure from what Dr. Haig has already told us, and in fact the frequent references it contains to a previous work by the same hand go far to deprive it of novelty and, in our opinion, are in bad taste. Those who are so fortunate as to be possessed of the author's work on *Uric Acid as a Factor in the Causation of Disease* will hardly require this recent addition to the uric-acid family, although in some respects, we think, the smaller is to be preferred to the larger work.

Albuminuria and Bright's Disease. By Nestor Tirard, M. D., F. R. C. P., Physician to King's College Hospital and Senior Physician to the Evelina Hospital for Sick Children, London, etc. With Original Illustrations. London: Smith, Elder, & Co., New York: G. P. Putnam's Sons, 1899. Pp. 362. [Price, $5.]

This work, by the careful compilation and lucid arrangement of its contents, should commend itself both to students and to practitioners. So much has been written on this subject, so many theories have been advanced, that one can not fail to appreciate a careful review of all that is tenable, and this is to be found in Dr. Nestor's book.

BOOKS, ETC., RECEIVED.

Practical Diagnosis: The Use of Symptoms in the Diagnosis of Disease. By Hobart Amory Hare, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, etc. Fourth Edition, revised and enlarged. Illustrated with Two Hundred and Five Engravings and Fourteen Colored Plates. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. x–17 to 631. [Price, $5.]

Manual of Bacteriology. By Robert Muir, M. A., M. D., F. R. C. P. Ed., Professor of Pathology, University of Glasgow, and James Ritchie, M. A., M. D., B. Sc., Lecturer in Pathology, University of Oxford. Second Edition. With One Hundred and Twenty-six Illustrations. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1899. Pp. xviii–564. [Price, $3.25.]

Selected Papers on Stone, Prostate, and Other Urinary Disorders. By Reginald Harrison, F. R. C. S., Member of Council, Royal College of Surgeons, etc. London: J. & A. Churchill, 1899. Pp. 190.

A Class Book of (Elementary) Practical Physiology: including Histology, Chemical and Experimental Physiology. By De Burgh Birch, M. D., C. M., F. R. S. E., Professor of Physiology in the Yorkshire College of the Victoria University, etc. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. x–5 to 273. [Price, $1.75.]

On the Study of the Hand for Indications of Local and General Disease. By Edward Blake, M. D., Member of the Royal College of Surgeons, etc. Second Edition. New York: G. P. Putnam's Sons, 1899. Pp. xvi–135.

Pyorrhœa Alveolaris and its Relations to General Medicine. By John Fitzgerald, L. D. S., Dental Surgeon to the Italian Hospital, etc. London: The Medical Publishing Company, Limited, 1899. Pp. 62.

Opinions of over One Hundred Physicians on the Use of Opium in China. Compiled by William Hector Park, M. D., Surgeon-in-charge of the Soochow Hospital, etc. Shanghai: The American Presbyterian Mission Press, 1899. Pp. xiv–95.

The Races of Europe: A Sociological Study (Lowell Institute Lectures). By William Z. Ripley, Ph. D., Assistant Professor of Sociology, Massachusetts Institute of Technology, etc. Accompanied by a Supplementary Bibliography of the Anthropology and Ethnology of Europe, published by the Public Library of the City of Boston. New York: D. Appleton and Company, 1899. Pp. xxxii–624.

A Selected Bibliography of the Anthropology and Ethnology of Europe. By William Z. Ripley, Ph. D., Assistant Professor of Sociology, Massachusetts Institute of Technology, etc. A Supplement to *The Races* *of Europe: A Sociological Study* (*Lowell Institute Lectures*). Published by the Trustees of the Boston Public Library. New York: D. Appleton and Company, 1899. Pp. x–160.

Traité de chirurgie clinique et opératoire. Publié sous la direction de MM. A. Le Dentu, Professeur de clinique chirurgicale à la Faculté de médecine de Paris, etc., et Pierre Delbet, Professeur agrégé à la Faculté de médecine de Paris, etc. Tome huitième. Mésentère, pancréas, rate, foie et voies biliaires, anus et rectum, rein et uretère. Par MM. Francis Villar, J. L. Faure, Pierre Delbet, Aimé Guinard, J. Albarran. Avec 123 figures intercalées dans le texte. Paris: J.-B. Baillière et fils, 1899. Pp. viii–972.

Transactions of the Southern Surgical and Gynæcological Association. Volume XI. Eleventh Session, held in Memphis, Tennessee, December 6, 7, and 8, 1898.

The Bearing of the Neurotrophic Function on Cutaneous Conditions. By Samuel Wolfe, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal.*]

Remedial Measures Proposed for Pennsylvania. By Samuel Wolfe, M. D. [Reprinted from the *Transactions of the Twenty-fifth National Conference of Charities and Corrections.*]

Gynæcologic Diseases: Some Points in the Diagnosis of the more Common Ones. By T. J. Watkins, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association.*]

The Treatment of Endometritis. By T. J. Watkins, M. D. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

Tampons and Pessaries in the Treatment of Displacement of the Uterus. By T. J. Watkins, M. D. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

A Thorough Preliminary Education a Prerequisite of Success in the Practice of Medicine. By Anna M. Galbraith, M. D., of Philadelphia. [Reprinted from the *Woman's Medical Journal.*]

Appendicitis or Salpingitis with Complications, and a Report of some Unusual Cases. By Thomas H. Hawkins, M. D., of Denver. [Reprinted from the *Medical Record.*]

An Improved Method for the Removal of Intraligamentous Cyst. By Thomas H. Hawkins, M. D. [Reprinted from the *Denver Medical Times.*]

Some New Practical and Pharmaceutico-therapeutic Notes, and some New Ideas in Surgical Instruments. By Samuel F. Brothers, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

Septic Endometritis, with a Recovery after a Temperature of 113° F. By Samuel F. Brothers, M. D. [Reprinted from the *American Medico-surgical Bulletin.*]

Hypnotism and Suggestion, with a Case of Spasmodic Stricture of the Œsophagus. By Samuel F. Brothers, M. D. [Reprinted from the *Medical Record.*]

Chronic Phthisis: A Case treated with Koch's Improved Tuberculin, etc. By Samuel F. Brothers, M. D. [Reprinted from the *Journal of the American Medical Association.*]

Ein modificirter " Cauterisator prostatæ " zur Bottini'schen Operation. Von Dr. Albert Freudenberg in Berlin. [Sonderabdruck aus der *Berliner klinische Wochenschrift.*]

Heilbarkeit des beginnenden grauen Staares. Von Dr. A. Klug, Freiheit-Johannisbad. [Separat-abdruck aus dem *Aerztlichen Central-Anzeiger.*]

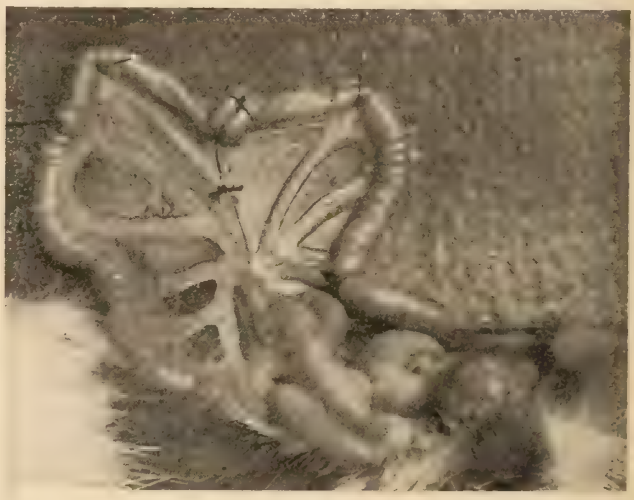
New Inventions, etc.

A NEW METHOD OF INTESTINAL ANASTOMOSIS.

By J. W. Hartigan, M. D.,
MORGANTOWN, W. VA.

I send herewith a photograph of a section of a dog's intestine, illustrating end-to-end anastomosis with the aid of light rings of large lumen. The rings used in this case were not specially made for intestinal work, but were of selenite, and of the sort used in the laboratory for making ring microscopical preparations. The question as to the kind of material to be used for making them can best be settled by experience. Bone, rubber, or aluminum would well answer the purpose.

They should be light and of large lumen. The facing surfaces may be made with eminences and depressions to prevent circular movements when *in situ*, or they may be left smooth. The surfaces facing the lumen and those opposite to those holding the peritoneal surfaces in contact, may, if absorbable rings are used, also be grooved. The grooves would hold the sutures when introduced, and so weaken the rings that they would break into small pieces. The length of time that they would hold would depend on the substance of which they were made and the depth of the grooves. In an article on Intestinal Anastomosis, in the *New York Medical Journal* for December 1, 1894, Dr. Wiggin sets forth a number of objections to the use of the Murphy button, stating them under six heads, and affirming their use to be " somewhat unsurgical " and possessing numerous dangers. The objections there set forth as to weight, smallness of lumen, variability in the strength of springs, and danger of perforation due to the holes for drainage, will not hold against the rings, while that of a foreign body in the intestine is reduced to the difference between the button and the rings. The lack of special skill required in using the Murphy button—to which, in Dr. Wiggin's



opinion, is due its popularity over the more difficult but more surgical and desirable method of Professor Maunsell—is still more marked in the operation with the rings. The lack of special skill required in any surgical procedure is, in my opinion, in favor of that procedure. The thing most to be desired in surgery is simplicity. When an operation completely and thoroughly meets the demands of a case, then the less technique required and the less skill demanded in its performance, the greater will be the number of surgeons who can do it, and the broader its range of usefulness. The ring operation can be done by any surgeon of ordinary care and training. With it there is less traumatism than with the Maunsell operation, and it can be done with much greater rapidity. The operation is done as follows: The piece of intestine to be removed is taken with its V-shaped section of mesentery, and the latter is united with interrupted sutures. Two sutures are passed from within out through the muscular and peritoneal coats of one end, and from without in through the peritoneal and muscular coats of the other end, and tied on the inside. This brings the peritoneal surfaces together at the mesenteric attachment. The rings are next introduced—one into each end of the divided gut—and pushed back a little beyond the free edge of the peritonæum. The sutures are then introduced by passing the needle from without in through all the coats of the gut behind the ring, through the lumen of the ring, and then from within out through the muscular and peritoneal coats about an eighth of an inch from the free edge of the cut intestine; then from without in through the peritoneal and muscular coats of the opposite end of the gut in front of the ring, through the lumen of the ring, and out through all the coats behind the ring. Several such sutures can be introduced before they are tied. When tied, the rings are drawn together and the peritoneal surfaces brought snugly into contact. Intermediate Lembert sutures can be used if necessary.

Miscellany.

A Long-delayed Confinement.—Dr. M. R. Adams, in the *North Carolina Medical Journal* for May 5th, records the case of a mulatto woman, aged forty-seven, the mother of five children, who ceased to menstruate during the winter of 1891–'92. Enlargement of the abdomen and other symptoms led to the supposition of pregnancy, and in August, 1892, signs of labor set in, and continued for ten or twelve hours. The physician called in, after examination, was satisfied that the patient was not in active labor, but thought that it might be shortly expected. He heard nothing more till October 7th, when he was again summoned, as on the former occasion, to find all the prodromal symptoms, but no softening or dilatation of the cervix. A few weeks later a quasi-menstrual flow occurred and the patient recovered her health and went about her duties as usual. From this period she seemed all right until November 7, 1898, when fever and other symptoms pointed to sepsis. In January, 1899, Dr. Adams was summoned in consultation, and from the history laparotomy was decided upon. This was performed, and on opening the uterus the operator found and removed the osseous framework of a fully developed child, but entirely disarticulated and submerged in about a quart of green, gangrenous, offensive fluid.

It would appear as though this child had attained maturity in August, 1892, and remained in the mother's womb until January, 1899—approximately six years and five months—without the mother having lost any of her time until nearly two months before the operation.

Christian Science Healers Committed.—According to the *Buffalo Medical Journal* for July, George H. Kinter and James C. Saunders were recently committed for trial before a United States jury on a charge of manslaughter in the case of Rolfe Saunders, who died while under their care without medical aid being sought.

Trial of Yellow-fever Serum.—According to the *New York Herald* for July 7th, Dr. Alvah H. Doty made the first trial of his yellow-fever serum in the human subject on a passenger from the United States transport *McClellan* on July 6th.

Vegetarianism and Religious Orders.—The *Medical Age* for June 25th says that it is publicly stated that there has been an important secession from the ranks of the vegetarians, the entire Dominican Order in England having received permission from Rome to eat flesh four days a week, instead of perpetually abstaining therefrom, as heretofore. In cases of ill health or of specially hard work, meat is to be allowed six days a week. This decision has been arrived at after the closest medical and official investigation of the effects of perpetual abstinence from meat in a variable climate like that of England, the result being that vegetarianism has been declared incompatible with physical strength and hard work.

Oyster Fever.—Dr. John W. Moore (*Practitioner*, March; *Canadian Practitioner and Review*, June) considers that oyster poison produces three distinct forms of febrile disease. The oyster toxine may act by causing a very acute illness. Within a few hours the person is suddenly seized with acute gastro-intestinal disturbance, as nausea, vomiting, and purging. After a few hours of misery the patient recovers rapidly. The second form is a continued fever. This fever is ushered in by chills, and lasts from a week to two weeks. There is much depression, and the case may end fatally by coma, convulsions, peritonitis, or heart failure. In some instances the acute form may be followed by this more chronic type. Where elimination in the acute cases is not complete, poisonous albuminoses are formed. These give rise to severe nerve symptoms, as paresis, heart failure, coma, etc. Then, thirdly, there is true typhoid fever, as has been so clearly pointed out by Sir W. H. Broadbent.

Another Total Extirpation of the Stomach.—According to the Berne correspondent of the *Medical News* in its issue for July 1st, Dr. Kocher, of Berne, performed total extirpation of the stomach for carcinoma on June 9th. The patient recovered well from the operation, but died suddenly on the third day. An autopsy showed a small area of necrosis in the wall of the transverse colon.

Hermaphroditism and Marriage.—The *Medical Age* for June 25th says, with reference to a case we cited from the *Archiv für Laryngologie*, ix, 1, 1899, of a woman who had applied for larnygologic treatment, in whom Berthold noticed that the vocal cords had the appearance found only in the male adult, that the individual was a hermaphrodite, who eight years later returned for a certificate to allow the change of sex, having fallen in love with a woman.

The Late Dr. Francis E. Noble.—At a special meeting of the Committee on Necrology of the District Medical Society of the County of Hudson, held in Jersey City, July 1, 1899, to take action on the death of Francis E. Noble, M. D., the following resolutions were formulated and will be presented at the next meeting of the society:

Whereas, We have learned with deep regret of the death of that worthy man, eminent scholar, and humanitarian physician, Dr. Francis E. Noble; and

Whereas, The District Society of the County of Hudson feel with unalloyed sorrow the loss it will sustain in Dr. Noble's death;

Resolved, That we thus publicly express our appreciation of the man, our admiration for his character, and our individual loss in the death of Dr. Francis E. Noble; and

Resolved, That we tender our condolences to his family and friends, ever reminding them that as the brightness of Dr. Noble's intellect has been always a lamp unto our feet in times past, so shall his memory be as a luminous star beckoning us onward toward manliness, truth, and virtue; and

Resolved, That a copy of these resolutions be sent to the bereaved family of Dr. Noble and be printed in the *New York Medical Journal*, *Medical Record*, and the *Evening Journal of Jersey City*, and spread in full upon the minutes of the District Medical Society of the County of Hudson.

[Signed.] Charles K. Law, M. D., *President;*
H. H. Brinkerhoff, Jr., M. D., *Treasurer;*
G. W. Shera, M. D., *Secretary.*

The Chair of Physiology at Edinburgh University.—According to the *Lancet* for June 24th, E. A. Schäfer, M. R. C. S., LL. D. Aberdeen, F. R. S., Jodrell professor of physiology in University College, London, has been unanimously elected to fill the chair of physiology in the University of Edinburgh.

The Cremation of Lawson Tait.—According to the *Lancet* for June 24th, the remains of Mr. Lawson Tait were cremated at Anfield, Lancashire, and the ashes removed in an urn to be deposited, in accordance with his testamentary wishes, in Gogarth's Cave, an ancient Welsh burial ground at Llandudno, Wales.

The Italian Medical Society of the City of New York.—We are informed that on May 11th a medical society with the foregoing name was duly incorporated at Albany. The incorporators were Dr. D. A. Casella (New York University); Dr. A. Pisani (College of Physicians and Surgeons); Dr. M. Luzzatto (University of Turin); Dr. J. Aquaro (College of Physicians and Surgeons); and Dr. G. B. Corsiglia (Long Island College Hospital).

The New Hampshire Medical Society held its one hundred and eighth anniversary meeting in Concord on May 25th and 26th. An unusually long programme was presented, nearly all of the papers being read and discussed, though a few were read by title and referred to the committee on publication. The attendance was large, and the meeting proved interesting to the members and delegates. The following officers were elected: President, Charles R. Walker, M. D., Concord; vice-president, William T. Smith, M. D., Hanover; treasurer, M. H. Felt, M. D., Hillsborough Bridge; secretary, Granville P. Conn, M. D., Concord. Executive committee: Dr. F. A. Stillings, Concord; Dr. George D. Towne, Manchester; Dr. William T. Smith, Hanover; Dr. F. E. Kittredge, Nashua; Dr. Ira J. Prouty, Keene; Dr. A. C. Heffenger, Portsmouth; Dr. G. W. McGregor, Littleton. Committee of arrangements: Dr. D. Edward Sullivan, Concord; Dr. Arthur K. Day, Concord; Dr. Frank W. Grafton, Concord; Dr. Sibley C. Morrill, Concord; Dr. George H. Parker, Concord. Anniversary chairman, M. S. Woodman, M. D., West Lebanon. The society has a council of twenty members and a board of censors, which includes the board of medical examiners and of registration for the State. The next annual meeting of the society will be held in Concord, May 31 and June 1, 1900.

Gastrotomy on a Horse.—The *Tri-State Medical Journal and Practitioner* for June records the fact that the first gastrotomy ever performed on a horse was recently done by a veterinary surgeon in East New York. The stomach was opened in order to effect the removal of a silver watch and some coins which had accidentally fallen from a stableman's pocket into the animal's manger, and were swallowed with its fodder. The operation was entirely successful, and it was recorded that the watch continued to go for an hour after being swallowed.

Conviction of a "Faith Healer."—We learn from the *Journal of the American Medical Association* for July 1st that the faith healer under whose treatment Dora Kraray, a child of Brooklyn, suffered from gangrene of the foot, making amputation necessary, has been sentenced to five years' imprisonment.

A Distinction without a Difference.—The *St. Paul Medical Journal* for July, in an editorial on The Passing of Homœopathy, says: "It is interesting to compare certain portions of the codes of ethics of the American Institute of Homœopathy and of the American Medical Association. In the former we find: 'Perfect freedom of opinion and practice is the unquestionable prerogative of the practitioner, who is the sole judge of what is the best mode of treatment in each case of sickness intrusted to his care. No greater misfortune can befall the medical profession than the action of an influential association establishing a creed or standard of orthodoxy.' In the code of the American Medical Association we may read: 'Neither is there any other article or clause of the said code of ethics that interferes with the most perfect liberty of individual opinion and practice.' Why, then," asks the *St. Paul Medical Journal*, "should honest practitioners ever call themselves homœopaths?"

THE NEW YORK MEDICAL JOURNAL, JULY 22, 1899.

Original Communications.

A STUDY OF DELIRIUM.

By WILLIAM HIRSCH, M.D.

FROM the earliest writers to the present day the word delirium has been used, in conformity with its etymology, as a collective term for the entire variety of mental disturbances. Every psychopathic symptom, of whatever character, arising in the course of disease, has been termed delirium. The habit has thus arisen of speaking of the most varied kinds of delirium, such as delirium of sensation, of judgment, of memory, of emotion. Even to-day we find any group of psychopathological symptoms described in the text-books and encyclopædias under the rubric delirium. Delusions, hallucinations, imperative ideas, etc., are spoken of as a delirium; and in French medical literature as well, *délire d'emblée, délire d'énormité, délire de négation, délire du toucher,* and the like, are frequently mentioned.

If we limited ourselves in the employment of the word delirium to this collective description of symptoms, and were willing to designate as delirious every patient who gave evidence of psychical derangement, there could be no difference of opinion as to the significance and use of the word. This is, however, not the case. In the course of time we have become accustomed to attach a special meaning to the word, aside from its general significance, and to describe a special psychopathic condition as delirium.

But even in regard to this special condition there is no unanimity among medical writers. Some regard every confusional state of mind as delirium, while others seek its particular characteristics in hallucinations, in the flight of ideas, or in incoherence of association.

In the face of this prevailing obscurity, as well as for a correct understanding of the psychopathic phenomena under discussion, it seems to me to be wise to define more accurately the conception of delirium and to restrict its use to a clearly defined condition. I believe that we are in a position to establish this boundary line on the basis of purely clinical observation. It must not be assumed, however, that we are dealing with a disease *sui generis,* but with a state evoked entirely by a certain complex of symptoms which, as we shall see, may arise in the most different kinds of disease.

We may frame our definition of delirium, then, in its restricted use, and founded on purely clinical lines, as follows:

Delirium is a psychical state characterized by an abolition of self-consciousness, by an incoherence in the chain of conceptions, and by the appearance of symptoms of sensory and motor irritation.

The abolition of self-consciousness is manifested by the total inability on the part of the patient to recognize his surroundings; his perception of the external world has vanished, or it is incomplete or changed. Sensory impulses no longer reach the sphere of self-consciousness and are no longer consciously appreciated. The amnesia following delirium is further characteristic of the obliteration of self-consciousness, for, as a rule, patients recall events occurring during the delirium very dimly or not at all.

The incoherence of conceptions is evident in the disconnected and confused speech and in the aimless movements of the patient. Hallucinations are produced by the psychosensory irritation in the various sensory areas, and the psychomotor irritation is responsible for the impulsive movements sometimes manifested in a very high degree.

As in all other psychic disturbances, transitions from delirium to similar related conditions occur, sometimes so gently that the correct judgment in a given case may offer the greatest difficulties. Occasionally, only a more thorough investigation of the pathogenesis and the further course of the disease yield a satisfactory conclusion.

Dreaming is the physiological analogue of delirium. In dreams, also, there is a suspension of consciousness of time and space, and the events of the external world are not at all perceived or only in a changed form. The recollection of the dream is only collective or totally absent. In both delirium and dreams there is an incoherence in conceptions and an interrupted continuity of thought. A delirium might, therefore, be described as a "waking dream." The main difference between a dream and delirium lies in the fact that in the latter the psychomotor sphere is not checked and that, as a consequence, intrapsychic events are transformed into motion. The visions of a physiological dream, moreover, become hallucinations in delirium.

So far as the pathology of delirium is concerned, we are justified, on both clinical and ætiological grounds, in explaining the origin of this condition by a suspension of activity in the areas of various cerebral functions. The external resemblance alone to the dreams which we are obliged to regard as a periodical physiological paralysis points toward the suspension of certain functions, with this difference only, that while in normal sleep the paralysis is more or less uniform, in delirium any part, without reference to order or grouping, may be thrown into inactivity.

The inactivity of the highest psychical centres means the abolition of self-consciousness. The consequent loss of inhibitory power permits an undisturbed transference of all psychosensory irritations to the sphere of psychomotor impulses. The incoherence in the chain of conceptions arises from partial suspension of the power of association, while the varied hallucinations of delirium also depend more upon an interruption of cortical activity than upon irritation. The fact is, then, that we have not to deal with centripetal hallucinations evoked through irritation of individual cortical areas, but with visions whose origin is similar to that of dreams and which seem real only because of the suspension of consciousness and of the faculty of judgment.

Let us now consider, after having established the limits of what we mean by delirium, the points of differential diagnosis between this and similar conditions.

Maniacal exaltation first suggests itself. Although acute mania forms a disease *sui generis,* we must bear in mind that, like delirium, a maniacal condition may occur in the most varied diseases. The maniacal condition is characterized clinically by an extreme rapidity in the flight of ideas, which in turn is responsible for the increased irritability of the psychomotor centres. We can best explain the appearance of these phenomena by assuming a paralysis of the higher psychical inhibitory apparatus. In accordance with this hypothesis, we find the lower impulses in a maniacal subject exaggerated in the highest degree, and the moods and passions rising and falling without check. It is not correct to assume that mania is characterized solely by a cheerful mood. At the sign of the slightest opposition, the maniac becomes wild with anger and rage, while some trifling occurrence may cause him to weep. In ceaseless alternation he shrieks, scolds, laughs, and cries.

The clinical pictures of mania and delirium may become scarcely distinguishable from each other when, in the former, the flight of ideas reaches its highest phase of development and the utterances and movements of the patient show no further trace of orderly thought. It is at this point that, in their external manifestations, the two conditions merge gradually into each other, and the consideration of the pathogenesis is of value in establishing a differential diagnosis. The maniac may be compared to a passenger in a railroad train. The landscape passes him so rapidly that he is unable to obtain any orderly impression from it; he sees nothing because he sees too much. The delirious patient, on the other hand, receives no orderly impressions because he is mentally surrounded by darkness. Now and then his mentality is cleared for a moment, but the impressions he receives are like a chain with broken links, and his perceptions are therefore obscured.

Even though the behavior of a maniac at the height of his fury appears disordered and without motive, an examination during his convalescence will always show that he was guided by certain definite delusions and hallucinations. He is cognizant of his conduct. He will say, for instance, when his maniacal exaltation has disappeared: "I was obliged to shriek to establish my rights"; "I destroyed things to anger my attendant"; "I yielded to an irresistible impulse." The preservation of self-consciousness during the attack is best evidenced by the later development of a certain responsibility and of a feeling of shame. A young woman recovering from nymphomania once remarked to me, "It is awful for me to think of the shameless way in which I conducted myself." It is frequently necessary for the physician to reassure his convalescents that their behavior was due to illness and that they were in no way responsible for it.

Matters bear a different face in the case of the delirious patient. He is absolutely unconscious of his acts. During convalescence there is either a total amnesia of the events during the attack or the memory of it exists only as that of a disturbing dream. He feels no more responsibility for what he has done than we do for the events of a dream. He is aware that his actions and emotions were the evolutions of unconsciousness and the consequences of unconscious psychical mechanism.

Whereas the moods of a maniac play an important rôle and may even lead to the commission of acts of violence, the delirious patient's mood is more uniform and is usually stamped by anxiety. Whereas in delirium it is sometimes possible to arouse the patient temporarily from his lethargic condition by calling out to him and addressing him sharply, in mania a similar procedure would only increase the exaltation, since every new impression tends to evoke further motor irritation. Still it may be possible to subdue a maniacal patient through psychical influences, not by arousing him as in delirium, but by appealing to the preservation of self-consciousness already spoken of. Threats or changes in the external relations of the patient may thus sometimes be relied upon to bring about this result. In the milder forms of mania the simple transportation to a sanatorium may have the sequel of quieting the patient, while in the case of delirum such measures lack a direct influence.

Another class of cases which may be confounded with delirium are those conditions of agitated confusion which arise from pathological passions and affections.

Strong passions, such as anger, fright, and particularly fear, may cause, within physiological limits, a considerable disturbance of the normal thinking act; but under pathological conditions, in which the intensity and duration of the passions are enormously exaggerated, and in which the psychic inhibitory apparatus, on the other hand, is functionally considerably diminished, a complete mental confusion combined with the greatest motor restlessness may appear, a condition which is seemingly identical with delirium. Such disturbances of the passions may be seen in hysteria and in most of the psychoses. They are seen most frequently and in their most exquisite development in melancholia, and are then known as melancholic frenzy and *raptus melancholicus.* In these instances there is also a marked cloudiness of self-consciousness at the height of the attack, which may even reach, as in a genuine delirium, total abolition of consciousness with a subsequent amnesia.

To distinguish these conditions from delirium, the origin of the attack must first be considered. In the majority of cases, if not in all, a feeling of præcordial anxiety precedes the outbreak of melancholic frenzy, and is the cause of severe complaint on the part of the patient. Invariably, however, it is possible to demonstrate the melancholic condition from which the deliriumlike state has developed.

The attack itself may be distinguished from ordinary delirium by the unmistakable feeling of fear which dominates the patient's entire demeanor. Whereas the cast of mind of the delirious patient seems to be one of indifference and may, at the most, offer the appearance of temporary alarm, every act in the state of melancholic frenzy shows the presence of the wildest despair. Despite the abolition of consciousness, a deeper impulse demands the relief of the psychical tension. With absolutely no recollection of what has happened, the patient may subsequently attempt suicide or the most horrible self-mutilation. The boundless sensation of impending fate may drive the patient to violence against his nearest relatives in the blind impulse of relieving them from pain and misery. In a state of *raptus melancholicus* mothers murder their children, husbands their wives, etc. Such inexorable demands never occur in delirium. The delirious patient never attempts suicide, nor does he show violence against others. His expression is not that of despair, and his conduct has a passive rather than an active character.

The distinction between delirium and the so-called hallucinatory confusion may offer much greater difficulty than the conditions already described. Whereas maniacal and melancholic frenzies approach delirium only in their clinical features, and fleeting transitions from one to the other occur only clinically, from the ætiological standpoint these conditions differ entirely from delirium. In many cases of confusional insanity, however, there is a certain connection between the pathogenesis and that of delirium, so that a sharp distinction between the two is impossible.

As is indicated by the name, the primary affection in hallucinatory confusion consists in hallucinations. The patient sees the most varied pictures passing before his eyes, as through a kaleidoscope. The sequence of the hallucinations is exceedingly rapid; they appeal in a disordered manner to the various centres until finally no clear mental perception is possible. The impressions of the external world, in fact, are not at all appreciated by the patient, since the hallucinations fully occupy his mind. In consequence of the ceaseless changes in the hallucinations, a complete incoherence of psychical activity supervenes secondarily. If the hallucinations are mainly of a depressing or serious character, they are followed by an ecstatic or stuporous frame of mind, while, on the other hand, anxious or cheerful hallucinations manifest themselves in the restless behavior of the patient.

Such conditions may present a striking external likeness to delirium. If they appear in the course of chronic psychoses, such as chronic hallucinatory paranoia or general paresis, the history and the further course of the disease may help to indicate the correct diagnosis. It is much more difficult, however, to reach a conclusion in a certain group of acute affections which are ætiologically related to delirium; and it may even be impossible, in some cases, to decide whether a primary or a secondary incoherence of the course of ideas is present, especially as a sharp line between the two conditions can not be drawn, as already pointed out.

Another class of psychical states which resemble delirium in their phenomena are the different varieties of weak-mindedness in which we have to distinguish between congenital idiocy and an acquired dementia. In these conditions, too, we must consider a primary incoherence of conceptions, together with a limited or even an obliterated self-consciousness. These conditions of dementia are similar to delirium in their ætiology as well. They both depend upon a suspended activity of the same psychical functions, with this difference, that in idiocy and in terminal dementia the disturbance is caused by permanent organic changes, while in delirium functional disturbances only are responsible.

The distinction between confusional dementia and delirium will in reality rarely offer obstacles, since the observation of the whole clinical picture will give at once an explanation of the presenting conditions. In the majority of cases the state will be readily distinguishable from delirium in that the motor symptoms are much less marked, although even in this particular gradual transitions occur.

Finally, these conditions, marked by confusion in speech, having their origin in paraphasia and word-blindness, may be mistaken for delirium. They arise in a certain group of organic diseases of the brain, and the logical behavior of the patient as contrasted with the difficulty in speech will lead to a correct diagnosis.

Meynert has described as "pseudophasic insanity" a particular form of confusional insanity which is dependent upon word deafness and soul blindness, in which the misunderstood events of the external world evoke a certain amount of anxiety, the utterances being complicated by amnesic and paraphasic features.

The many somatic symptoms which accompany these forms or organic brain disease will easily allow the distinction between them and delirium to be made.

Having separated delirium as an independent psychopathic entity from all related and similar conditions, we will next consider the nosological rôle played by delirium, and what diagnostic and prognostic conclusions we are able to draw from its appearance. We will first consider those cases in which delirium arises in the course of an existing disease.

As is well known, delirium appears most frequently as the so-called "delirium of fever" in the acute infectious diseases. There is a marked tendency on the part of physicians to call all psychic disturbances arising in the course of febrile diseases delirium. This is both incorrect and injudicious. In the course of a fever isolated delusions, maniacal excitation, and acute illusions appear just as frequently as delirium, and it is well to distinguish sharply between them, as they may each have a different significance. Whereas single delusions or maniacal excitation point only to a circumscribed psychical irritation or paralysis, a genuine delirium indicates a state of inanition and demands energetic stimulation. A true delirium of fever, therefore, arises most frequently during collapse, and a muttering delirium sometimes indicates a rapidly advancing decline in vital energy.

Delirium may appear in the course of certain psychoses, and in such instances always indicates general exhaustion. It is of bad prognostic significance when it develops gradually under these circumstances, and is not infrequently the first sign of approaching death. There seems to be a special tendency toward the development of delirium in the course of functional psychoses which are complicated by some organic disease, such as a valvular lesion of the heart, a chronic nephritis, etc. Frequently delirium arises in organic diseases of the brain as a sequel to some acute lesion of the brain substance, such as minute hæmorrhages, emboli, or œdema.

When a delirium suddenly develops without warning in a previous seemingly healthy person, a correct judgment of the case becomes much more difficult than when it appears in the course of certain diseases. These are the cases that the general practitioner sees in relative frequency. A man who has heretofore attended quietly to his affairs suddenly becomes confused in speech, runs aimlessly about his room, reacts to no external impressions, and appears to recognize no one about him. The nearest physician is sent for and diagnosticates an acute delirium by the method above mentioned.

What is the nosological and pathological significance of such an acute delirium? Is it an independent disease, which has suddenly developed, or is it but a complex of symptoms which may be evoked by different diseases? What are the underlying forms of disease, and what means have we at our disposal to clear up the pathological condition?

The relative frequency of acute delirium induced Brière de Brismont, during the forties, to describe a special form of disease, which he called "acute delirium," and which he believed he could sharply differentiate from other similar ailments. Although, in 1879, Mendel, and later Jolly, pointed out that this is not a disease *sui generis,* but that acute delirium represents only a complex of symptoms dependent upon the most varied disorders, the description of delirium acutum as a special disease is found, even at the present day, in the greater number of psychiatric text-books. Let us briefly consider the various diseases which may be responsible for a so-called acute delirium and attempt, at the same time, to bring out the different points which may lead us to a correct diagnosis in every individual case.

The previous history of the patient may be of great value in our conclusions concerning an acute delirium. A history of previous epileptic attacks, for example, may without further search put us upon the track of the ætiology. The epileptic status is, as is well known, mainly characterized by a change in consciousness, and even though this change is not, as a rule, delirious in character, still it is not impossible for the clinical picture of a delirium to appear during the progress of an epileptic case. The relation of a delirium to a true epileptic attack may be varied in particulars. The delirium may directly follow or even precede an attack. In some instances the attack may be wholly absent and the delirium take its place as any other psychical equivalent of a genuine seizure. Since we have learned that epilepsy does not solely consist in the familiar seizure, but represents a permanent neurosis, cases have been observed in which a typical attack has never been seen, but in which the principal feature of the disease is represented by psychical equivalents. Delirium may sometimes be the only symptom in this class of cases, which are known as larvated or psychic epilepsy. The diagnosis must be made in these instances by the periodicity of the seizures, by the sudden disturbance of consciousness, by auralike appearances, by the fatigue following the attack, by hereditary taint, as well as by certain neurotic symptoms showing themselves in the interval, and by carrying in mind the well-known epileptic character.

So far as the character of the delirium in these instances is concerned, it is usually on the border-line between typical delirium and hallucinatory confusion. Hallucinations are common. They are not infrequently of a religious and expansive nature; often they are of a persecutory type, and then provoke an excitement so great as to induce fear of impending death. These cases of epileptic insanity properly come under the category of hallucinatory confusion, as do a great number of cases described as epileptic delirium.

Such conditions may last as long as several hours, the termination of the delirious state being a sudden one. Usually a stupor supervenes from which the patient gradually recovers until his consciousness is restored.

The history of a recent acute infectious disease may give additional support to the correct judgment of an acute delirium. The ætiological importance of acute febrile diseases in the production of an independent psychosis has always been recognized by conscientious observers. Although our knowledge of the connection between these pathological conditions is very meagre, clinical experience has established the fact of their relation beyond all doubt.

The clinical form of the pyschoses belonging to this group is very variable, and hence the number of different types of disease described by medical writers is considerable. A common conception of this topic is unnecessarily made much more difficult by the fact that new names have been constantly introduced for the same type of disorder, so that it is believed by many that there are actually so many different diseases. As a matter of fact, the same type of disease may be based in part upon a difference of degree only, or may have partly quite different relations. While Esquirol grouped most of the disorders of this class under his *démence*, in the course of time an extensive list of descriptive terms became attached to them, some of which disappeared while some are still retained in the nomenclature of the present day. Included in this group are the so-called mania gravis, the acute delirium previously spoken of, Meynert's acute hallucinatory delirium, Fürstner's acute hallucinatory insanity, the acute hallucinatory paranoia and the hallucinatory delirium of Mendel, Meyser's acute confusional insanity and asthenic delirium, etc.

How far such a subdivision into different types is justified, in what relation they stand to each other, whether there is in fact a different pathological basis for each of them or whether one or the other form is most predominant, I will not attempt to discuss here. The fact remains that in all of them the presence of delirium is most important, a circumstance which has more or less justified the tendency of calling the entire disease by the name of this condition.

The beginning of the psychic disturbance in this group may not manifest itself for weeks or months after the termination of the infectious disease. Under certain circumstances they may start with an acute delirium. If, in the course of the disease, hallucinations are most prominent, or if systematic delusions appear, or if there is a primary incoherence of thought—all these factors may offer determining points as to which type a given case shall be assigned to.

In general, the prognosis of the psychoses included in this group is favorable. Those cases, however, in which delirium constantly predominates usually represent a state of inanition which occasionally may prove fatal, particularly in weak persons. This form is not nearly so apt to run into a secondary chronic psychosis as another type in which a regular set of delusions is developed soon after the outburst of the delirium, as, for instance, in acute hallucinatory paranoia.

Besides the acute infectious diseases, such as typhoid fever, malaria, influenza, pneumonia, pleurisy, multiple neuritis, articular rheumatism, erysipelas, scarlatina, etc., acute poisoning may produce psychoses which belong to the class under discussion. Delirium has been observed after large doses of salicylic acid, cannabis indica, belladonna, conium, and ergot. It has also been seen after a protracted use of iodoform in and about wounds, and sometimes after a lengthy administration of ether or chloroform. The inhalation of poisonous gases, such as carbonic-oxide gas, hydrogen sulphide, carbon disulphide, nitrogen monoxide, etc., may have as a sequel psychic disturbances of the kind described.

Pathological psychic phenomena beginning with delirium may develop from chronic toxic conditions induced by the abuse of chloral and chloroform, or by the habitual use of opium, morphine, cocaine, paraldehyde, absinth, and, above all, alcohol. The predominance of delirium over all other psychic symptoms is responsible for the origin of the well-known term delirium tremens, so frequently seen in chronic alcoholism. Here, too, delirium is seen only in connection with other existing conditions. The delirium itself may sometimes be only of minor importance and, indeed, may be totally absent, being then replaced by such phenomena as hallucinatory confusion or maniacal exaltation. An acute delirium in the course of chronic poisoning may arise without demonstrable cause, it may immediately follow excesses, or it may appear as a sequel of abstinence.

Chronic forms of metallic poisoning are sometimes characterized by similar psychic derangements. The principal features of saturnine encephalopathy are of an acute delirious nature. Cases of so-called "transitory lead mania" have been observed frequently. Mercurial psychoses, too, are mainly characterized by symptoms of confusion. Further, those cases of lyssa belong to this category, the psychical disturbances of which, as a rule, take the form of an acute delirium. A comparatively large percentage of acute delirium is formed by the puerperal psychoses. Acute delirium following even minor operations has been very frequently described. Traumatic injuries, especially those affecting the skull, may also evoke delirium.

The so-called cases of acute general paresis run their courses beginning with an acute delirium and ending fatally in a few days or weeks. These instances form a large proportion of the cases described as delirium acutum. If one examines carefully the previous history of such patients, it will almost always appear that, although the patient was in seeming good health, a series of derangements will be found which are characteristic of general paresis. The relatives will state that the patient had shown changes in character for some time past, that he had become indifferent to things which had previously interested him, that he frequently forgot important things, that his dealings appeared to be queer and without motive, etc. The autopsy in such cases shows pathological changes of some duration whose influence has remained latent, such as a chronic interstitial encephalitis, atrophy and softening in isolated cortical areas, thickening of the dura, etc.

Despite the most careful research, it may prove impossible, in a certain number of cases of acute delirium, to draw any pathological conclusions from the history. In this event, we may have to deal with a sudden attack in a previously perfectly healthy individual. A thorough examination of the internal organs may give some clew as to the origin of the disease in these cases.

I have already alluded to a twofold relation between delirium and the acute infectious diseases. I have discussed the delirium arising during a febrile disease and that accompanying a psychosis which is the result of such an ailment. I will now consider a third group which shows a relation between the two conditions. A person previously in perfect health may suddenly be thrown into a state of agitation and confusion. An acute psychosis is diagnosticated and the patient is transferred to an institution. After a while it appears that he is suffering from typhoid fever or some other infectious disease. Acute delirium of this nature without any prodromata occurs, especially in erysipelas and acute articular rheumatism, in typhoid fever and meningitis. But even minor infectious diseases, such, for example, as a follicular amygdalitis, have been said to give rise to similar phenomena.

The diagnostic and therapeutic importance of a careful physical examination in these cases is self-evident. A number of cases, no doubt, starting with elevated temperature and diagnosticated as so-called "delirium acutum," may belong to this category. The diagnosis of meningitis usually offers no great difficulty on account of the typical symptoms on the part of the cranial nerves. In typhoid fever, the enlarged spleen, the quality of the dejections, and the presence of a roseola will lead to the correct diagnosis, although these symptoms may sometimes be absent. The correct somatic diagnosis of acute articular rheumatism is, as a rule, not difficult.

The examination of the urine in a case of delirium of acute origin must never be neglected. Although it is a well-known fact that in the course of psychoses, and especially during delirium, albumin and hyaline casts may be found in the urine with no post-mortem changes in the kidneys, yet it is not rare for an acute delirium to start a psychosis which is dependent upon a chronic, possibly latent, nephritis. Occasionally the cerebral features of a uræmia may present the clinical picture of acute delirium, although as a rule they are characterized by epileptiform seizures or comatose conditions.

The cerebral symptoms of some other forms of disturbed metabolic processes may assume the form of delirium. Now and then an acute delirium may take the place of the familiar diabetic coma, and it may, in fact, be the first symptom of an overlooked diabetes.

So far as the treatment of delirious conditions is concerned, it will be determined by the therapeusis of the underlying disease as soon as this is recognized. Nevertheless, there are certain features of the treatment to be kept in mind, especially with reference to the symptomatic treatment of delirium itself. As I have frequently emphasized, a true delirium is the outcome of exhaustion, and this furnishes an indication for free stimulation and for preservation of the bodily strength. Abundant nourishment is consequently primarily indicated. In cases of protracted delirium, when the patient can not take his nourishment naturally, the use of the stomach-tube must not be neglected. Nutritive enemata alone are not sufficient, and should be employed only when feeding through the stomach tube is contraindicated for one reason or another. When there is enfeebled heart action, it is well to add wine to the food given. If the heart's action is very much diminished in force, subcutaneous injections of ether or camphor should be resorted to. When the circulation is very much impaired, intravenous or subcutaneous infusions of a saline solution are indicated.

By combating the motor restlessness, much can be gained in the preservation of strength. The patient should be kept in bed if it is at all possible. The choice of sedative remedies depends in part upon the character of the delirium. In the cases of patients who have feelings of great anxiety and whose clinical conduct resembles that of melancholic frenzy, or when the delirium has developed from a melancholia, subcutaneous injections of opium or morphine are rapidly efficient in producing quiet. If the indication to reach the psychomotor centres directly exists, as in a case of maniacal frenzy, hypodermic injections of hyoscine or hyoscyamine are efficacious. Subcutaneous injections of ergotin are often followed by a good result in cases of delirium which seem to be dependent upon congestive conditions, such as paralytic mania, epileptic insanity, menstrual delirium, etc. Warm baths and wet packs frequently exert a sedative action. If the delirium is accompanied by fever, ice applications and cold sponge baths are useful.

Venesection is to be condemned without reserve. The naïve view that hyperæmia of the brain is alone causative of conditions of excitation belongs to the past. When a hyperæmia is present, it is the result, not the cause, of the pathological process, since neuroparalytic phenomena in the vasomotor areas evoke severe disturbances in the circulation and thereby cause a cerebral congestion. The treatment must therefore be directed toward the stimulation and regulation of the circulation, and must not include, under any circumstances, weakening measures, such as venesection, purges, blisters, etc. The fact that delirium so frequently arises after severe loss of blood and in conditions of inanition should be sufficient caution against the withdrawal of blood and other similar procedures.

Delirious patients sometimes died from fat emboli in the lungs. The injuries inflicted upon the subcutaneous fat in various parts of the body through the motor restlessness of these patients formed the starting point from which these emboli became lodged in the pulmonary arteries, in consequence of which death supervened. Although such occurrences are comparatively rare, they form sufficient indications to protect delirious patients from injuries as much as we possibly can. Seemingly insignificant bruises may be the starting-points of grave complications, and this danger is materially increased by the fact, as we have seen, that a great number of delirious patients suffer from diseases of an infectious or toxic nature, in which the tissues are in a condition of diminished resistance.

Considering the results of our discussion, we may conclude by saying that delirium, in the sense of the definition above given, is an independent psychopathic condition which, however, does not form a *morbus sui generis,* but occurs during the course of a great many mental diseases. A correct conception of the pathological nature of this condition is of the greatest importance in diagnostic, prognostic, and therapeutic respects.

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THE IMPORTANCE OF EARLY DIAGNOSIS IN LOCOMOTOR ATAXIA, AS AFFECTED BY THE NEWER PATHOLOGY.*

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The considerations which influenced me in selecting, upon short notice, locomotor ataxia as the neurological subject for my paper this evening were several in number and equally conclusive. Made up, as this society is, about equally of general practitioners and specialists in many fields, the subject seems, to me at least, to possess a peculiar appropriateness.

The disease is one of the most frequently observed and familiar of all the organic affections of the nervous system. During the past twelve months, in a total of one hundred and thirty-eight recorded cases of organic disease observed by the writer occurring in adults, thirteen, or about ten per cent., were in tabetics. The disease is of great interest, or should be, to the general practitioner, because of the fact that upon him depends the prompt recognition of the significance of the earlier symptoms. These earlier symptoms belong to the so-called incipient or preataxic stage of the disease, a period universally conceded to be of vital import as regards prognosis. This stage is unfortunately rarely observed by the specialist. These earlier symptoms are exceedingly varied—almost protean—in character, and may invade many or any of the domains of specialism. It is for this reason a subject of common interest to all of us. The alert oculist is often the first to suspect its presence. The dermatologist should never lose sight of the possible relation of many cutaneous lesions to this disease. A rectal or vesical or sexual disturbance may lead to a similar interpretation at the hands of the genito-urinary expert. Lesions of joints or of the bones are sometimes diagnostic in significance to the enlightened orthopædist or surgeon. Finally, the possibility of adding an element of novelty to an otherwise old subject through the presentation of a brief *résumé* of the recent additions to our knowledge of neural anatomy, physiology, and pathology tempted me to accept the invitation.

Ever since the time of Duchenne, who in 1857 described it under the term progressive locomotor ataxia, we have been familiar with the clinical picture of the established disease. The existence in combination of ataxia of gait and station with abolished knee-jerks, lightning, stabbing pains in the legs, reflex iridoplegia, palsies of the ocular muscles with primary optic atrophy and disturbances of common sensation, made up a symptom picture unique in its constant diagnostic significance, not even simulated by any other known disease. Since Charcot's writings in 1879 and 1880 until recently, no assumption in neurology has been maintained with more positive aggressiveness than that the disease had an equally constant pathology, with the primary and essential location of the lesions in certain posterior columns of the cord, the said lesions being those of sclerosis. Primarily vascular, the lymph spaces were first attacked; proliferative exudation occurred with resultant overgrowth of connective tissue or neuroglia, the axis-cylinder fibres and nerve cells of the posterior cord being gradually and progressively starved and strangled into nihilative non-existence, with, of course, resultant disturbance and finally loss of correlated function in the areas of peripheral distribution. That such teaching was erroneous and vitally misleading seems true beyond question in the light of facts adduced within the past half decade through the investigations of Waldeyer, Ramon y Cajal, Van Gehuchten, Andriezen, Marie, Hodge, Sherrington, Leyden, and others. The symptomatology remains, of course, largely as heretofore, but a radical change is inevitable in the *interpretation* of these symptoms, especially as regards their bearing on prognosis and a more rational therapeusis, as I hope to indicate later.

The discovery by Waldeyer, through Golgi's stain, of the neurone as the nervous unit marked the beginning of the end of the old *régime*. The subsequent work of the other investigators mentioned, especially Leyden, Redlich, Marie, and Sherrington, completed, or at least materially advanced, our progress toward the doctrine of to-day.

The theory of the neurone applies to both motor and sensory units, but it is with the latter that we are especially concerned in the study of tabes. According to this theory and probable fact, the cell and its nucleus and all its processes are essentially related as a unit of nervous force and function. Motor, sensory, and sympathetic neurones are alike in this respect, though differing somewhat in less essential particulars. The neurone in which we are chiefly interested to-night belongs to the posterior spinal ganglia and to the homologous ganglia of the sensory cranial nerves.

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* Read before the West End Medical Society of New York, April 1, 1899.

The body of this neurone is flask-shaped. Its axone divides into two branches, one of which constitutes the peripheral nerve, ending, at the point of distribution, in what are known as terminal arborizations, which are brushlike expansions in the skin or muscle plates or spindles; the other branch passes inward as a posterior root to the cord.

This dorsal root is, according to Marinesco, made up of three sets of fibres: short fibres, which pass directly into the posterior gray matter or horns; medium fibres, which ascend some distance up the cord, part of them entering the posterior cornu at its middle portion, others entering Clarke's columns, these medium fibres forming the fasciculus cuneatus of Goll; long fibres, derived chiefly from the region of the corda equina and which ascend the entire length of the cord, forming the fasciculus gracilis and ending in the medulla. All three sets of fibres terminate, as do those to the skin and peripheral muscles, in brushlike arborizations. One neurone is never directly united to another, but each maintains through its body and processes its own distinct individuality. Several facts are to be noted just here which are of material significance in applying these anatomical and physiological observations to the modern theory of the pathogenesis of tabes: First, the fact that these neurone bodies are quite probably—indeed, almost certainly—the trophic or nutritional centres for both dorsal and peripheral roots, about equally distant from the terminal arborizations of both. Second, the fact that these posterior spinal ganglia are rather peculiarly vulnerable to disease because of the somewhat precarious blood supply and an exposed state of the dorsal roots from a relative poverty in myelin. This vulnerability of the posterior ganglia is especially emphasized by Redlich,* who refers to this region as *locus minoris resistentiæ*. Third, the fact that the anatomical course and distribution of the dorsal root fibres described are in constant harmony with the older known lesions and the order of successive involvement of the columns of Spitzka and Lissauer, of Goll, of Clarke, and of Burdach, which are invariably found in tabetic autopsies in the advanced disease. Fourth, the clinical fact that the symptom picture in incipient locomotor ataxia is essentially one of sensory and neurotrophic disturbance, the motor paralysis being either a late symptom or due to a complication, such sensory disturbances being manifest in the early disease frequently in functions which are in anatomico-physiological relation to the distal termini of the neurone, either in the skin or spinal-cord arborizations. Finally, the fact that syphilis, the great ætiological factor in tabes dorsalis, exerts its malignant influence directly or indirectly through the medium of impaired nutrition is to be noted. All these facts, with others too technical for such a paper, have served as the basis for the newer pathogeny and pathology of tabes, which, in the language of Möbius, is "parenchymatous atrophy, not syphilitic neoplastic growth"; or, as it has been more elaborately expressed by Marie: "The changes found in the tabetic spinal cord are not the result of a primary systemic myelopathy; they are the expression of a progressive degeneration of the posterior root fibres. These medullary changes in tabes occur in segments, while each diseased posterior root furnishes a new contingent of degenerated fibres to the spinal cord." This last statement, I might say just here *en passant*, affords an adequate explanation for the hitherto inexplicable stationary periods often noted in the progress of the disease. Through the nutritional or irritative effect of syphilis or metasyphilitic toxines, or by means of traumatism, or prolonged exposure to cold with overexertion physically, the neurone body becomes the site of trophic disturbance which involves necessarily its processes. If sufficient in degree, an atrophy of the parenchymatous type—a neuritis probably—develops. The terminal arborizations of the processes are first affected—usually, and for the reasons mentioned, of the posterior roots. The short fibres of the dorsal roots—those which make up the Spitzka-Lissauer tract—are first to yield; then the fibres of medium length, which are found in the columns of Goll and Clarke, and then the long fibres which ascend to the medulla in Burdach's column. Simultaneously the fibres of the sensory homologues of the cranial nerves may be affected. Secondarily a sclerosis of these tracts and fibres occurs. Such, in brief, is the newer pathology of locomotor ataxia. It is as yet, it must be admitted, a theory rather than a demonstration, but its foundation is so sound and its application so satisfactory in explaining many of the erstwhile inconsistencies of the disease as to strongly recommend it and to insure its adoption as a working hypothesis.

In addition to those already mentioned, Blocq, Nogeatte, Wallenberg, and Ransom have adduced valuable evidence in its support. Obersteiner and Redlich, while accepting the teaching that disease of the posterior roots precedes disease of the posterior columns, believe that the primary cause is a chronic syphilitic inflammation of the pia mater producing thickening which, by compressing the posterior roots, induces parenchymatous atrophy.

The apparently important objection to this theory has been urged that the posterior ganglia, while often showing disease, are occasionally found to be free, at least, of gross changes. It is well known, however, that the function of a ganglion cell may be radically altered without visible structural change, and especially does this seem probable where the function disturbed is one of nutrition. Assuming this theory to be true, at least in essential particulars, what are the correlated deductions as to prognosis and treatment in locomotor ataxia?

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* *Die Pathologie der Tabes*, pp. 6, 205, Jena, 1897.

There is no reason whatever to believe that it will modify the hitherto extremely unfavorable prognosis as regards anatomical cure in the established advanced disease. It can at best better the outlook for the patient, as yet, only in those cases in which the disease is recognized in its incipiency and treated promptly and appropriately. It is reasonable to assume by analogy that if recognized with sufficient promptness in its early stages, before secondary sclerosis has occurred, the disease may not only be arrested, but an actual cure may be effected by means of appropriate treatment. Hence, the urgent and all-important necessity for a thorough study of those symptoms which from clinical experience or from *a priori* reasoning are known to be, or are likely to be, premonitory or prodromal of the developed classical disease.

This aspect of the subject I shall discuss from two standpoints: First, that of the significance of certain broad factors; second, the significance of certain symptoms referable to certain nervous functions.

Bearing in mind the ætiological importance of age, sex, occupation, and syphilis, and also the legitimate deductions from the new theory of pathogenesis, any nervous disturbance, especially if sensory, occurring in a man between the age of thirty and forty-five, who admits or exhibits evidences of previous syphilis, and whose occupation involves exposure or overexertion, should excite suspicion sufficient to at least demand an investigation of the knee-jerk, the pupils, and the functions of the genito-urinary apparatus. If, in such a man or woman, there is a history of the characteristic prodromes of cerebro-spinal syphilis—periodical vesperian headaches associated with insomnia in the fore part of the night—then the suspicion should be strengthened and a more careful investigation follow. Dana is the only author in whose writings I have ever seen any reference to the prodromal significance of such headaches and insomnia in tabes, although I have invariably investigated as to this point in all my cases for the past five years, and in thirty-four cases have found it present in seven, all of which were syphilitic. One of the most constant statements appearing in the early clinical histories of tabetics is that of unusual and excessive fatigue, out of proportion by comparison with previous endurance to the amount or duration of exertion. The soldier gets tired on the march more easily, the sailor shirks his work from sheer fatigue, the policeman feels more and more inclined to rest on patrol, etc. (Not all resting policemen are tabetics, however.) Often in such cases there is a cachectic appearance suggestive of anæmia or some dyscrasia. If not explained by other evident causes, such states of chronic quick fatigue, especially if associated with cachexia, should lead to the question of previous syphilitic headaches, insomnia, etc. The premonitory significance of certain disturbances in special nervous functions is much more important and conclusive. Such premonitory symptoms are referable to the functions of common sensation, nutrition, and special sense disturbances of cranial nerves. These I shall discuss briefly with some reference to the order of relative importance.

Common Sensation.—If the new theory as to the pathogenesis of tabes admits of practical clinical deductions of any force whatever, such deductions apply with peculiar significance to the functions of common sensation. If the evidence of nutritional disturbance of the neurone body is first manifest in the distal arborizations, we should expect among the earliest symptoms various defects in tactile, pain, and muscular sense. The facts of clinical experience are fortunately harmonious. Disturbances of common sensibility are frequent early symptoms. Of sixty-five cases investigated by Max Laehr,[*] with special reference to disturbances of sensibility, sixty showed early and constant hyperæsthesia of the trunk with hyperalgesia to cold, and also diminution of pain and posture sense. Marinesco [†] found in a total of fifty cases, forty in whom there was anæsthesia of the thoracic region at the nipple level. There was also well-marked early tactile defect in the perineal and anal region, and especially of the scrotum. Ten of the fifty cases were of the amaurotic type, in whom disturbances of sensibility were far less constant or decided. Perhaps the earliest affected is the muscular sense in some of its subdivisions: position, weight, pressure, etc. The degree of impairment may be very slight and readily escape notice. Unfortunately, the methods employed in testing this sense are crude and utterly lacking in delicate accuracy. Pain is an early symptom. It is at times the only symptom for years, a fact to which Gray, Hutchinson, and others have called attention. Hutchinson [‡] has reported a case in which the characteristic pains constituted the only symptom for twenty-five years. Its relative constancy as an early phenomenon is well illustrated in Riley's [#] analysis of sixty-one cases, in thirty-seven of which it was the first symptom. In Erb's table of four hundred cases quoted by Leimbach,[‖] characteristic pain was present in eighty-eight per cent. Usually and most characteristically it is in the legs and in the area of the anterior crural, less often the upper sciatic. Sciatica, especially if bilateral, is often at least suggestive. Occasionally the pains are of the upper extremity, affecting chiefly the ulnar area. Rarely it is of the fifth nerve. When located here, the teeth may be lost, dropping out one by one, and the beard may turn rapidly gray and become brittle. Rosin,[△] Pacetti,[◊] and Letulle,[↨] quoted in Sajous's *An-*

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[*] *Archiv f. Psych. u. Nervenk.*, Bd. xxvii, 95.

[†] *Sem. méd.*, October 13, 1897.

[‡] *Archives of Surgery*, July, 1892.

[#] *Journal of Nervous and Mental Diseases*, September, 1898.

[‖] *Deut. Zeit. f. Nerven.*, Bd. vii, Nos. 5 and 6, 1895.

[△] *Deut. Zeit. f. Nervenk.*, vol. xcii.

[◊] *Transactions of the Eleventh International Medical Congress*, 1894.

[↨] *Revue neurol.*, October 15, 1894.

nual for 1894 and 1895, have each recorded examples of the disease in which atrophy of the jaws, loss of the teeth, perforating ulcer of the mouth, or other sensoritrophic disturbances of the fifth nerve were among the first symptoms. Sudden stabbing pains in the rectum, often diagnosticated as rectal neuralgia, have been noted, and many of the crises are obviously painful sensory symptoms. Early loss or defect of the pain sense is said by certain observers to be rather peculiar to special localities, as, for example, analgesia of the popliteal space (Bechterew), of the ulnar distribution (Biernacki), or of the peroneal area (Sarbo). Varying degrees of anæsthesia are often found early. Perhaps the most frequent site is the sole of the foot, especially the great toe. Patrick has described a special zone of anæsthesia encircling the trunk at about the level usually of the nipple line, which he believes to be a very early symptom. In all adult syphilitics in whom any of the other symptoms mentioned are found, careful, patient examination of all forms of common sensibility should be made.

Ocular Symptoms.—Möbius teaches that strabismus and ptosis with diplopia, occurring suddenly in a male adult without pain, means locomotor ataxia. Not all neurologists are ready to subscribe to this doctrine, but the syndrone is generally admitted to be quite common. It was present in twenty-six per cent. of Erb's four hundred cases.* The third nerve is most frequently involved, less often the sixth, rarely the fourth. Pupillary changes are often early phenomena. A condition of myosis is the rule; sometimes there is an inequality. More significant still is the presence of what is known as the Argyll Robertson pupil, a reflex iridoplegia manifest in a loss of reaction to light with, at first, preservation to distance, usually bilateral, but sometimes unilateral. A sluggish reaction to light in an adult syphilitic should stimulate further inquiry. An intermittent Argyll Robertson pupil has been noted in a few cases. Eichhorst † reports two such instances, both in women, the other symptoms being progressive. Treupel ‡ reports a similar condition in a male tabetic. The sympathetic skin pupil reflex is often lost quite early in the disease. Anæsthesia of the palpebral conjunctiva supplied by the fifth is at times an early symptom. In so-called amaurotic tabes the disease is usually first recognized through an atrophy of the optic nerve. This atrophy is characteristically primary. Bernhardt,# who has specially studied the optic nerve changes, finds that choked disc is very rare. Progressive blindness due to primary optic atrophy, if associated with abolished knee-jerks, means posterior spinal sclerosis, even though ataxic and painful sensory symptoms are absent. This variety—amaurotic tabes—is said to be peculiar to certain races, notably the negro, according to McConnell.

Genito-urinary Symptoms.—All cases of sexual impotence dependent upon defective erection or other motor weakness should excite the suspicion of tabes. It is often an early symptom. Diminished sexual desire may also be present. When impotence from motor weakness is present, it will often be found that analgesia of the testicle and scrotum in some degree also exists (Pitres's sign). Bittot and Sabrazes, Tartarschuff and Marinesco confirm Pitres as to the frequency and importance of defective sensibility of the scrotum and testicle as an early sign in locomotor ataxia. This symptom is variable, and return of sensibility in the testicle is often coincident with renewed sexual vigor. Some derangement in the vesical function may first attract attention to the possibility of tabes. (Erb's table, eighty per cent.). Slight incontinence, or more frequently some tardiness or difficulty in emptying the bladder, may lead the patient to seek medical advice. Obstinate constipation is common in the established disease, but is valuable only in association with other symptoms in the early stages of the disease. The significance of rectal neuralgia is considered elsewhere.

The Reflexes.—Westphal's symptom, which consists in an abolition of the knee-jerks, is often a very early and always a constant sign. Certain neurologists, among them Althaus and Buzzard, have stated that abolished knee-jerks alone indicated the existence of the disease, a view utterly untenable but none the less significant as indicating the relative constancy and importance of this symptom. Of Erb's four hundred cases, the knee-jerks were lost in ninety-two per cent.* Ostankow † found abolished knee and ankle reflex in one hundred per cent. of twenty-six cases. In cases of suspected tabes it is of importance to note any tendency toward progressive diminution in the activity of the knee reflex as indicated in frequent tests. In cervical tabes the knee-jerks are or may be normal, of course. According to Bechterew, the superficial reflexes, abdominal, epigastric, etc., are intact in preataxic tabes. Ostankow, quoted above, found the abdominal reflexes either normal or exaggerated in twenty-one of the twenty-six cases studied. The remaining five were at the paralytic stage of the disease. In certain cases in which Westphal's zone of entry is not primarily invaded, the knee-jerks are not affected. In such cases as suggested by Babinski and Mills, it will be found that there is a compensatory loss of the tendo-Achillis reflex. I assume that the methods, including those of sensory and mental reenforcement, employed in testing the reflexes are familiar to my audience.

Trophic Symptoms.—Some years ago a patient consulted me for symmetrical perforating ulcer on the soles of the feet. I was at once impressed with the fact that the ulcers were absolutely symmetrical on the plantar surfaces and that there was an absence of any traumatic element as a cause. As stated by the patient, they occurred spontaneously. Tests showed the presence of Romberg's symptom, due in this case to plantar anæsthesia, abolished knee-jerks, and Argyll Robertson pupil, though severe pains had not been noted. The patient had tabes dorsalis, the perforating ulcers being due to trophic impairment. Falling out of the hair, onychia, herpes, bullæ, lipomata, and other cutaneous lesions are some of the early trophic phenomena which have been noted. Sudden painless swelling of joints, especially the knees and elbows, may be atrophic manifestations of the disease in its early stages. If associated with a tendency to so-called spontaneous fracture of the bones, the probability of tabes is proportionately augmented. Krojious [*] and others have reported examples of the disease in which an arthropathy was the first symptom.

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* *Loc. cit.*

† *Deut. med. Woch.*, No. 23, 1898.

‡ *Münch. med. Woch.*, August 30, 1898.

# *Berlin. klin. Woch.*, July 15, 1895.

* *Loc. cit.*

† *Neurol. Centralb.*, p. 140, 1898.

Crises.—Among the rarer clinical phenomena of early tabes, various distressing disturbances of visceral function may occur: attacks of paroxysmal gastralgia or enteralgia, of excessive vomiting, of dysuria, of vesical tenesmus, etc., variously known as gastric, enteric, laryngeal, and bladder crises. Such attacks occurring in adults, and without other ascribable cause, may indicate the beginning of locomotor ataxia. Of Riley's [†] sixty-one cases, in three gastric and in three laryngeal crises were the first indications of tabes. Wolff [‡] records three examples of the disease beginning with gastric crises.

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THE
PROPERTIES OF BUFFALO LITHIA WATER.

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Water is such a familiar body that, although we are aware of its importance in animate and inanimate Nature, ye we do not habitually, perhaps, consciously realize its positive hygienic and medicinal effects. An instinctive craving prompts the brutes to make use of the fluid as a beverage and necessity of life. Of all the tissues water is an integral constituent. The digestive fluids consist largely of water, and the digestive processes are chiefly concerned in rendering the components of our food soluble as a preliminary to absorption. Water itself is therefore a food, inasmuch as it is necessary to the life of the human organism. All this is undoubtedly true, and is set forth at length and in detail in our treatises on physiology. Nevertheless, it may be questioned whether we are always, as physicians, mindful of the many useful purposes served by the mere administration of water in disease. It is valuable alike in the upbuilding of the body and in the removal of waste products and deleterious substances. It promotes the action of the various eliminating organs. Water has a very excellent effect upon the kidneys, and as these are the principal organs of excretion—"the common sewers of the body," as they have been termed—it possesses those virtues which belong to diuretic remedies. Not only the fluid but also the solid constituents of the urine are increased by the drinking of water. Coincident with the escape of waste matter the ingestion of water promotes the assimilation of nutritive material. As the demand for water is universal and imperative, Nature has, in most parts of the world, provided a generous supply. We are accustomed to speak of pure water, but, in the strict sense of the words, scarcely any water is absolutely pure until after it has been distilled. From the atmosphere and the soil it derives certain foreign characteristics, so that the waters of different localities differ from each other somewhat in composition. It follows, therefore, that there is no absolute distinction between plain and medicinal water. Mineral springs, impregnated with various salts and gases, abound in many regions of the world and are widely distributed in the United States. The medicinal effects of these waters depend upon the ingredients which they contain, and they are divided into different classes according to their chemical composition. Among alakline waters the Buffalo Lithia Springs, of Mecklenburg County, Virginia, are very favorably known in this and other countries. The springs are designated as Nos. 1 and 2, and vary somewhat in their ingredients and proportions. These waters exercise an indisputable therapeutical influence far in excess of the amount of lithia and other saline constituents demonstrated as present by chemical analysis. The beneficial results which they produce can not be attributed either to the quantity of water or to the amount of the lithia, measured by grains.

Analysis shows that both springs contain sulphate of magnesium, alumina and lime, chloride of sodium, and silica, with traces of phosphoric acid and iodine. Lime is present in spring No. 2 chiefly in the form of the sulphate, while in spring No. 1 the bicarbonate predominates. The No. 2 is richer in lithia than the No. 1 spring. No. 2 also contains a considerable proportion of bicarbonate of potassium, while this salt is entirely absent in No. 1. Bicarbonate of barium, present in No. 2, is lacking in No. 1.

The water of spring No. 2 is a perfectly clear fluid, entirely destitute of any unpleasant or alkaline taste.

The peculiar virtues of the Buffalo lithia water appear to be owing to the mixture of salts which they contain and, as regards spring No. 2, to the proportionately large quantity of the bicarbonate of potassium.

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[*] *Lakäre Forhänd.*, vol. xxxv.

[†] *Loc. cit.*

[‡] *Lakäre Forhänd.*, 1895.

They are likewise due to the perfect solution in which the salts are held and, consequently, to the complete absorption and assimilation which result. In the alembic of Nature more effective solutions are produced than the laboratory of the chemist can always prepare.

An additional advantage and extremely important reason for the peculiar efficacy of the Buffalo lithia water lies in the fact that its composition approximates that of the serum of the blood; therefore it is admirably fitted for absorption into the blood current and immediate incorporation with the watery portion of the nutrient fluid. It becomes at once identical with the blood serum. These are qualities which far surpass those possessed by any extemporaneous solution of a single chemical preparation, as when a lithia tablet, *e. g.*, is dissolved in water for immediate administration. When we speak of a dose, it is of a quantity altogether relative, and what the physician emphatically desires in a dose is therapeutic efficiency. This we have in the Buffalo lithia water.

Those who have made use of this water and carefully noted its effects have often been surprised at the results obtained from amounts so small, according to chemical analysis, of lithia and the accompanying salts. The explanation of this extraordinary activity is doubtless to be found in the conditions just adduced.

For the practical ends of therapeutics it suffices to know the properties of the agents which we employ. We are not always able to understand precisely how such properties are acquired. Abundant experience has shown that the Buffalo lithia water, by virtue of its lithia and the associated salts, is much more effective in some very important particulars than extemporaneous solutions. It exerts, for instance, a solvent action upon renal, hepatic, and vesical calculi more powerful than could be expected from a mere inspection of its chemical analysis. By sweeping uric acid rapidly out of the system it alleviates the miseries of gout. It is efficacious in rheumatism, Bright's disease, diabetes mellitus, and a number of nervous affections. These defects of metabolism are all to be traced back to faulty digestion. In a paper devoted solely to clinical observation I shall not pause to inquire into the minutiæ of pathogenesis. We can, however, readily detect a vicious chain of relationship between the various maladies which I have mentioned. When we extend our view and contemplate the secondary ills and complications of rheumatism, gout, Bright's disease, and diabetes mellitus, we can more fully appreciate the virtues of a remedy which attacks the very root of the tree of morbid genealogy. "From generation to generation," indeed, its branches extend, and what is mild in the father may become severe in the son.

The Buffalo lithia water is doubly efficient in rheumatism and gout. It dissolves uric acid and phosphatic sediments as well as other products difficult of elimination, while at the same time it exerts a moderately stimulant effect upon the renal cells, and thereby facilitates the swift removal of insoluble materials from the body. Without such action insoluble substances will precipitate in the kidneys and bladder. The intense suffering produced by stone, together with consecutive pyelitis and cystitis, are avoided by prompt elimination.

Unquestionably, although the speedy removal of uric acid and other products of faulty tissue change is of conspicuous benefit, yet to prevent their formation is a service still more important. This service is performed by the Buffalo lithia water when it corrects those digestive failures which are responsible for the production of deleterious materials.

As stone is one of the most harmful and painful ultimate consequences of faulty digestion and assimilation, the solvent virtues of Buffalo lithia water constitute, perhaps, its highest merit. It has been instrumental in disintegrating large calculi of varying composition, as attested by clinical reports corroborated by chemical examination.

Nothing can afford a more direct and convincing illustration of the efficacy of the Buffalo lithia water than the recital of the histories of a number of typical cases in which it was used with advantage. I have accordingly selected certain cases in which the Buffalo lithia water was obviously influential in producing excellent results.

Case I. *Acute Inflammatory Rheumatism.*—A young woman, twenty years of age, complained of having had pain in her joints for the two preceding days. The knees were particularly involved. She had also experienced chilly sensations, fever, and headache. The bowels were constipated. She had not vomited, but had lost her appetite. During the night before my first visit she had suffered excruciating pain. The articular pains alternated for a while between one joint and another, and from one to the other side of the body. Finally they located themselves chiefly in the left knee, which was considerably swollen, and which the patient instinctively maintained in a flexed position.

This patient was unable to take the salicylate of sodium on account of the nausea and notable cardiac depression which it excited. As an agreeable and convenient manner of carrying out an alkaline plan of treatment, the girl was consequently placed upon the Buffalo lithia water, of which she partook freely every second hour. This water proved acceptable to the stomach from the first, and there was no difficulty in its administration. Its power was soon manifested. On the following day the patient was greatly improved. The joints were much less painful, and she had slept tolerably well during the night. She was able to make some movement of extension with her legs. At the end of a week she was entirely free from pain and, although still weak, insisted upon sitting up for a few hours.

Case II. *Subacute Rheumatism.*—A woman, fifty-two years of age, had for three days been suffering pain, attended by swelling and redness, in the metacarpo-phalangeal joints of the left hand; subsequently the same joints of the right hand were attacked. Thence the pain spread to the right knee and hip joints, though the latter two were but slightly if at all swollen. About a year previously she had had a long and severe attack of acute inflammatory rheumatism. That had been her first experience with the disease. The present illness had followed an undue exposure to cold. It had been preceded by no chill, though there had been moderate fever. Some sweating had likewise occurred. Her tongue was covered with a whitish fur, and her bowels had not been moved for several days. The pain had prevented her from obtaining much sleep. There was no cardiac involvement.

In this case treatment was begun by a purgative combination in order to secure a free movement of the bowels. The main reliance, however, was placed upon the Buffalo lithia water, which she was directed to take in quantities of four to six ounces several times in the course of the day. Improvement was almost immediate. On the next day she was in less pain and her right hand was somewhat less red and swollen. She had obtained some rest during the night. On the second day the improvement still continued. The arthritic inflammation had subsided. She was able to take more nourishment than she had formerly done. On the fourth day the swelling had disappeared from the right hand. She could close both hands. She was resting well and taking more nourishment. Her tongue was coated, and it was necessary to administer another purgative dose, after which time she steadily gained, and it was not necessary for me to make any more visits.

Case III. *Muscular Rheumatism.*—A short, stout, florid, and muscular man, thirty-four years of age, after lifting a heavy weight two months previously, was seized with a sharp pain in the side. A few days later he was taken ill and confined to bed for several days. His symptoms were pain in the stomach and small of the back, fever, and loss of appetite. After recovery from this attack the man seemed perfectly well for a few weeks, when he began to be troubled with muscular pains, especially upon exertion. The pains were chiefly situated in the serratus magnus, external oblique of the abdomen, and latissimus dorsi muscles. There was no continued fever, but he was apt to feel feverish at night. His skin was rather dry. Sometimes he perspired quite freely during the night, and always felt improved after the sweat. His tongue was coated with a moderately thick fur, whitish toward the tip, yellowish at the base. He was not jaundiced or sallow. His bowels acted with regularity. His appetite was poor and digestion imperfectly accomplished. His abdomen was so distended with flatus as to cause him decided discomfort. His sleep was not nearly as sound or prolonged as it had been before this attack. He frequently lay awake for hours at a time. His urine was very dark colored and felt hot as it passed along the urethra. He had no headache. He occasionally had pain in the limbs, and sometimes also in the knee, although there was no swelling in that articulation. None of the joints, in fact, were swollen. He had never suffered from inflammatory rheumatism. During the past two years, however, he had from time to time experienced joint pains without swelling.

Though this case began with an injury, there is no doubt that its subsequent course was due to a rheumatic diathesis.

The continuance, the spread to other parts of the body, the turbid urine, and the prior occurrence of rheumatic twinges pointed to the nature of the affection.

In this instance Buffalo lithia water was the sole remedy employed. The man used it at the table as a beverage and drank several goblets of it between meals. The patient soon began to amend under its use, and at the end of a week had so far improved that he resumed his business occupations and discontinued attendance. The effect of the remedy was marked as regards the flatulence, which steadily and rapidly disappeared. No remedy except the water was given, as I have said, but the patient's diet was regulated. He had been a hearty feeder and had indulged freely in meats. He was also a moderate drinker.

Case IV. *Subacute Rheumatism.*—A young girl, aged nineteen years, had noticed swelling of the ankles and dorsum of the foot for five days. The affected joints were painful. She was scarcely able to stand. Jarring or sudden movements caused her decided pain. At the same time she was troubled with sharp, darting pains, accompanied by some swelling, in the wrists, elbows, and finger joints. When she was brought under my observation all the tumefactions had subsided except those of the ankles. The appetite had declined. The bowels had been regular. The tongue was moderately coated. The patient felt very weak. There had been no headache, pain in the back or breast, or shortness of breath. She had not noticed any irregularity in micturition or any changed appearance of the urine. I discovered, nevertheless, that the urine deposited a considerable sediment of urates. During the five days' illness the girl had experienced a constant disposition to chilliness. She ascribed her illness to getting her feet wet.

She had previously had two or three similar attacks. She had no knowledge of a rheumatic tendency in her family.

In this case the influence of Buffalo lithia water was prompt and decided. She was directed to drink of it freely, and the urine soon became free from sediment, the pains were abolished, and she was able again to attend to her household duties. Her alvine evacuations assumed a better character and her tongue cleaned.

Case V. *Gout.*—A man, fifty years of age, was a great sufferer from gout in its most confirmed form. His finger and toe joints were swollen, tender, and distorted; the lobules of his ears contained chalky deposits; his digestive functions were poorly executed, and he was a picture of premature senility. He walked with pain and difficulty, aided by a cane, and trifling indiscretions of diet intensified his sufferings. From time to time he was subject to acute exacerbations of the disease, when the affected joints would become the seat of extreme agony. After recovery from these acute attacks he would sometimes remain considerably improved for a certain period. The disease was hereditary.

It is not necessary in this paper to detail the treatment of this severe case in all its phases. In this connection I simply desire to call attention to the beneficial effect which Buffalo lithia water had during his intervals of comparative freedom. When the patient would restrict himself to a plain and easily digestible diet, free from stimulants, and partake regularly and freely of the water, his ailment was held in some check, and he experienced more comfort than he had thought possible. Nevertheless, like many gouty individuals, he was disposed to hearty and convivial habits, and after a period of comparative immunity he would return to the fleshpots and winebibbing which he loved. A return of pain and swelling or an acute and prostrating attack would then compel a halt, a resumption of abstemious habits, and recurrence to active treatment. When the acute inflammation had subsided the beneficial influence of the Buffalo lithia water was again manifested, and the man entered upon a new era of quiescence. Could this patient have entirely conquered his bad habits his last years might have been far more comfortable than they were. The efficacy of the Buffalo lithia water, however, was very conspicuously manifested when the patient gave it anything like a fair chance.

CASE VI. *Gout.*—This was very similar in outline to the immediately preceding case. There was the same hereditary history, the same alternations of quiescence and exacerbation, the same chalky deposits in fingers, toes, and lobes of the ears. This patient, also male, was sixty-eight years of age, but had the advantage over the other man in that his habits were more temperate and that he yielded a fuller obedience to instructions. The results were correspondingly more favorable. The hepatic insufficiency could not, indeed, be cured, or the kidneys restored to organic and functional health, but the formation of urates was checked and their deposit inhibited, or at least decidedly lessened. Nothing more could be accomplished at the advanced stage of the disease which the man had reached. The Buffalo lithia water without doubt rendered this patient much more comfortable than he had formerly been. Had he become acquainted earlier in life with its virtues he would certainly have been spared much agony. This individual was fully convinced from his own experience of the efficacy of this treatment in chronic gout. During a series of years he relied upon it habitually, and to his use of this medicinal beverage, conjoined with his general habits of abstinence in other respects, he justly attributed the diminished frequency of acute attacks.

CASE VII. *Subacute Gout.*—A third patient suffered from uric-acid intoxication, but in a much less extreme form than the two men whose histories have been already outlined. This person, male, aged forty years, had never been the subject of acute gout. He was troubled, however, by stiffness and tenderness of his finger joints, and occasionally had sharp but fleeting twinges in the great toes. He was the victim of migraine, which is well known to be a frequent manifestation among the gouty, if, indeed, it be not solely dependent upon the uric-acid diathesis. The man had much embarrassment of the digestive functions and was obliged to be excessively cautious in his diet if he would avoid an attack of sick headache. He was of a sallow complexion, had an habitually dirty tongue, and was much troubled by constipation and flatulence. His urine was very high colored and turbid and deposited an excess of urates upon standing.

This patient's condition was decidedly ameliorated by recourse to Buffalo lithia water. He drank it regularly and habitually, having been taught by experience its power to reduce the production and to facilitate the elimination of uric acid before it should be deposited in the tissues. In all probability the continued use of this water will prevent any of the later and graver symptoms of gout. The effect was speedily observed upon the urine, which became clear in color and devoid of sediment. Coincident with this objective improvement the finger joints became more supple and less tender. The attacks of sick headache became less frequent and less severe, while his bowels were more regular and his digestive powers strengthened. This man was an excellent patient; he was anxious to take every possible care of himself and avoid any course which might prove injurious to his health. Such people often outlive those who were originally much more rugged.

Chronic Dyspepsia. — Long-continued embarrassments of digestion are the fruitful cause of various remote ailments. That form of hepatic insufficiency which permits the production and accumulation of uric acid is the source of rheumatism, gout, and lithæmia. Acute rheumatism may be ranked among the infectious fevers due to the activity of a micro-organism, but dietetic derangements certainly are very closely connected with its evolution. Chronic rheumatism is indisputably allied with notable failure of the digestive functions. The same is true of lithæmia and gout. In other directions Bright's disease, gravel, and calculi, as well as diabetes mellitus, are the outcome of habitual and chronic indigestion. In all varieties of this distressing ailment, therefore, we should endeavor, by well-chosen and prompt measures, to counteract the dangerous tendencies of digestive failures. Auto-intoxication of gastro-intestinal origin is capable of assuming a variety of forms and different grades of intensity. As is well recognized, a number of diseases of the skin are produced in this manner and are never cured until their mode of origin is traced. In many cases of aggravated dyspepsia the Buffalo lithia water has exerted a very beneficial influence.

From numerous cases of chronic dyspepsia of different forms, the following have been chosen as exhibiting the good effects of this water:

CASE VIII. *Flatulent Dyspepsia.*—A woman, thirty-six years of age, had for about two years been subject to great flatulence, coming on almost immediately after eating, causing eructations and frequently distressing attacks of palpitation of the heart. There was no œdema of the limbs; she had never had kidney trouble or inflammatory rheumatism. She had the appearance of being well nourished, but her skin had rather a yellowish cast, although she had never suffered from liver disturbance or had jaundice.

In this case the Buffalo lithia water was of essential service in regulating the action of the bowels and kidneys, dispelling flatus, and relieving the palpitation. When her most annoying symptoms had been banished, the woman began to feel more hopeful, to seek the society of her friends, and to enjoy life, as she had not done for a long time.

The sallowness also disappeared and was replaced by a healthy hue.

CASE IX. *Flatulent Dyspepsia.*—A woman, sixty years of age, had been dyspeptic for years, but for some months past had experienced an aggravation of symptoms. She is subject to "heartburn," flatulence, eructations, and sickness of the stomach, though she seldom vomits. These symptoms made their appearance from five to fifteen minutes after partaking of food. The bowels were usually constipated. Lately, also, she had been afflicted, soon after eating a meal, with feelings of weakness, but had never fainted. She had never been troubled by vertigo. She generally had a fair appetite.

In this long-standing case the diet was regulated with a view to relieving the digestive organs, diminishing flatus, and allowing the digestive functions to become reestablished. In the management of the case great assistance was undoubtedly rendered by the Buffalo lithia water, which, according to instructions, she took freely at intervals during the day. Some medicines were given in the commencement of the treatment, but these could be dispensed with after a time, and the principal means employed were dieting and the use of Buffalo lithia water.

CASE X. *Flatulent Dyspepsia.* — A woman, fifty years of age, had been annoyed with flatulent distention of the abdomen, nausea, and sometimes vomiting, irrespective of the food taken, not infrequently retching violently when nothing had been eaten. She was also troubled by headache, but never had vertigo. She had but little appetite. Her bowels were habitually constipated, but lately, and once six months previously, she had had a pseudo-dysenteric attack. It was attended by rather frequent passages of mucus, sometimes mixed with blood, but no chill or fever. There was no œdema. The patient never fainted, and, although she is somewhat short of breath, has not been particularly troubled by dyspnœa. She suffered also from considerable pain in the abdomen and had lost some flesh. She had never vomited blood. These symptoms began several years previously, but had been growing worse during the past year.

In this case likewise the use of Buffalo lithia water was attended by excellent results. Careful examination failed to reveal the presence of any abdominal tumor, and gastric carcinoma was excluded. The result showed that this exclusion was warranted. In addition to revision of the diet, much of the care of the case consisted in the liberal use of the water. The woman soon gained confidence in its power and followed advice to the letter. The ultimate result was extremely satisfactory, for in course of time the alimentary functions were so far restored that she was able to eat sufficiently for every purpose without unpleasant after-effects.

CASE XI. *Flatulent Dyspepsia.*—A similar case to those already narrated was that of a woman, twenty-five years of age, who had for several months suffered from flatulence after eating, with pain in the abdomen. Her appetite was poor and her bowels rather constipated. There was no nausea or vomiting. She often had headache. She was pale and had lost some flesh. Her menses had always been regular until the last period, when an interval of only two weeks had elapsed. She had recently had some leucorrhœa, but there was no actual or developed uterine disease. Her nutrition had failed and she was anæmic.

In this, as in the preceding cases, Buffalo lithia water proved of distinct service. By promoting the digestive processes it acted indirectly as a blood tonic, and this effect had been noted in other cases.

CASE XII. *Flatulent Dyspepsia.*—A woman, forty-five years of age, had for six months past experienced great distress after meals. She was troubled principally by extreme flatulence and palpitation of the heart. The flatulence developed soon after she had eaten and lasted several hours, often as many as six or eight. The palpitation occurred very frequently, though not as often as every day. She had no colicky pains, but there was generally a feeling of soreness over the abdomen on pressure. The gaseous distention chiefly concerned the stomach, which became enormously swollen and outlined in the epigastrium and hypochondriac regions. Some hours subsequent to a meal the swelling usually descended to the lower abdominal regions. There was no sign of decided hepatic disturbance. She had never been of a bilious habit. Her bowels were habitually constipated. She did not suffer from vertigo or headache, but had grown nervous, melancholy, and disposed to brood over every trifle. She did not sleep well at night on account of her nervousness. She occasionally had "sour stomach." She seemed to find a difficulty in eructating, though the act gave her relief. She did not have much appetite for breakfast or supper, but enjoyed a midday dinner. She feared, however, to indulge her appetite, because it led to so much subsequent distress. Her diet was of a mixed variety and the materials were good. She had abandoned the use of fried food, pastry, and coffee. This woman lived too much in the house and in too much solitude. She had no children, her husband was away at his work all day, and she associated but little with her neighbors.

Notwithstanding the gravity of the symptoms and the adverse circumstances of the case, in few instances have I witnessed more rapid amendment. She was at first ordered digestive ferments and antiseptics and her bowels were placed in a soluble condition. She was given minute directions in regard to diet and ordered to walk abroad every good day. Buffalo lithia water was prescribed and taken freely throughout the day. According to the patient's own statement, the water was of marked usefulness. The strictly medicinal treatment by drugs was soon abandoned and the woman relied exclusively upon the lithia water.

CASE XIII. *Bright's Disease.*—Buffalo lithia water is a gentle but efficient diuretic, and in Bright's disease has a beneficial influence in promoting a flow of urine and in absorbing and carrying off dropsical effusions. This effect was particularly marked in the case of a man, fifty-two years of age, who presented himself with all the prominent symptoms of nephritic disease and whose urine contained a considerable proportion of albumin. Under the microscope an abundance of casts, mostly of medium size and of the epithelial variety, were found. There were also some granular and a few hyaline casts.

This was not a very promising case, but, nevertheless, it seemed that the kidneys were not thoroughly disorganized. The approved measures were adopted and were followed by a certain degree of improvement. The Buffalo lithia water was then added to the methods of management and could be distinctly observed to fulfill a useful purpose. It kept the kidneys and bowels active, aided in the reduction of the œdema and the passage of albumin, and was instrumental in affording the patient an appreciable relief.

Gravel.—In a number of cases of gravel, both of the phosphatic and uratic variety, excellent results were observed to follow the systematic use of Buffalo lithia water. It rendered the gritty and irritating particles soft and finally dissolved them, and thus sensibly diminished pain and obstruction to the passage of urine. In these cases the nature of the deposit was verified by chemical and microscopical examination. If such affections are allowed to progress they terminate in the formation of calculus of the kidney or bladder and the consecutive establishment of calculous pyelitis or cystitis.

Cystitis.—Stone is generally referred to the operating surgeon, although a number of very remarkable instances of solution of stone within the body by the faithful employment of the Buffalo lithia water have been published. I have, however, notes of an interesting case of cystitis excited by the presence of uric acid in excess in the urine. The patient was a young man who was a great sufferer from extreme frequency of micturition, accompanied by pain, especially during the night, tenderness over the bladder, and sometimes the passage of blood. The urine contained a very abundant deposit of urates. The administration of the water dissolved these particles within the bladder and permitted a restoration of that organ to a healthy condition.

REMARKS BASED UPON A FURTHER EXPERIENCE WITH CALOMEL IN DIPHTHERIA.*

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Two years ago, at Washington, D. C., I read a paper before this society, published in the *Transactions* of 1897, on Calomel as a Curative Agent in Diphtheria. It was based upon my experience with this drug covering a period of eighteen years.

In that paper I cited an experience with a case of inoculated malignant diphtheria in a woman fifty-five years of age, weighing two hundred pounds—the most pronouncedly malignant of any I have ever seen—due to a scratch on the finger by a child dying of this disease. That case was saved by the heroic use of calomel. Three hundred and sixty-five grains were given in thirty-five hours—twenty grains in the first dose and ten grains every hour thereafter until the characteristic action was secured. Rapid and complete recovery ensued without the slightest mal-effect due to this drug. Also in that of a child, aged eighteen months, where I gave eighty-five grains—ten grains in the first dose and five grains thereafter hourly, for sixteen hours, with similar results. Independent of these I had employed this drug in twenty-three cases of the most malignant type, forty-two pronouncedly severe, and in a much larger number, which might be called mild, though typical cases. The dose varied in accordance with the severity of each.

I have had no occasion to employ a course so heroic as in the first two named, although I have treated many malignant cases, less in degree, tempering the use of the drug to meet the requirements of each. I now believe that smaller doses of calomel, oft repeated, will exert as specific an action in the majority of cases as the larger doses related in my former paper on this subject. Nevertheless, I would feel perfectly justified in resorting to the more heroic treatment should the case seem to be approaching the moribund condition, and I would have no fear of any direful results from the drug.

Cases of diphtheria, *due to inoculation*, are comparatively rare. In twenty years I have had but three. Two of these occurred within a month after our meeting in Washington, and my experience with those and others has suggested these further remarks:

> I was called to see a girl, aged fourteen years, suffering with a severe form of diphtheria, which responded readily to a sixth of a grain of calomel, given every half hour for twenty-four consecutive hours, decreasing the dose and lengthening the time of administration as she improved, using Marchand's peroxide of hydrogen for frequent spraying of the throat. After securing the characteristic dejection I placed her on iron and chlorate-of-potash mixture. She made a rapid recovery. Two weeks later I was called to the younger sister of ten years and a brother of six years of age, both exhibiting a malignant form of diphtheria, as evinced by the swollen and deeply injected fauces, engorgement of not only the post-cervical, but the submaxillary and sublingual glands also. Every precaution had been taken to prevent communication with the elder sister and contamination of the house. On the third day the mystery was solved. The elder sister had been using chewing gum when her throat was sore and probably after the patches had fully developed. As children often do, she hid it by sticking it underneath the chair seats. Her sister and brother found the bonanza and duly reveled in their discovery. In this manner they were thoroughly inoculated. I commenced by administering to each a five-grain dose of calomel, followed every twenty to thirty minutes with half a grain, also dissolving calomel triturates in warm water, and in suspension, securing the topical action of the drug in spraying the nostrils. I decreased the dose as improvement manifested itself. The nursing was faithfully done. Inside of four days they were safe. The half-grain dose was given on an average of every half hour for thirty-four doses, when I dropped to the one sixth of a grain for twenty-four hours, and to still smaller doses, until I felt that the disease was conquered. They both made good recoveries, and neither exhibited the slightest mal-effect from the calomel. It is a noticeable fact that the patient becomes stronger during the administration of this drug. There is less of local paralysis, and the so-called "heart failure" from toxæmia is not liable to occur.

I have had a fair share of diphtheria in my practice since my last paper was presented in 1897, and not one patient has perished. Invariably calomel has been my mainstay.

Again I state that I have never seen a case of salivation, or anæmia, or any mal-effect that could be traceable to this drug in the treatment of diphtheria in the manner employed. *Faithful and intelligent*

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* Read before the American Climatological Association at its sixteenth annual meeting, May 9, 1899.

nursing is of course required. There is no remedy that to me seems so safe, and none whereby you can as securely "feel your way." By it the nature and the severity of the case may be early proved; should it be only an aggravated attack of amygdalitis the one eighth to one tenth of a grain, given every hour, with the use of peroxide of hydrogen for spraying the throat, will bring a comparatively early response; should it be true diphtheria, so small a dose will bring no characteristic action in even twenty, thirty, or more hourly doses. In such, courage is necessary to push the treatment by increasing the dose, and if necessary decreasing the interval between doses until the characteristic dejection occurs. Even before this is accomplished improvement in the patient's condition will be noticeable.

By the *characteristic dejection* I mean the movements from the bowels that have the appearance of "frog spittle," and copious like that of the green polyps observable in an old water trough; slight greenish movements may occur before the characteristic dejection is secured, and although improvement becomes manifest with these, a copious "frog-spittle" stool is necessary to prove that the limit is reached. I am well aware of the great claims made by many in behalf of *antitoxine* as a curative agent in diphtheria. The consensus of opinion is far from being emphatic in approval of its use when the advanced stage of the disease is presented. That it has proved a success in the doubtful, mild, and early stages I can not question.

But in the light of my experience of twenty years with the calomel treatment in this disease, with the percentage of loss so insignificant, in my own as well as in the practice of others who have tested this plan, to change it for any other would seem like the abandonment of a certainty for an uncertainty.

I wish it to be understood that I am advocating the *fearless use of calomel only in pronounced diphtheria.* Although it is one of the most valuable of all drugs known, I realize fully the necessity of a physician exercising the greatest care and discrimination in its employment generally. That the use of calomel has been abused in times past there is no doubt. At the same time we know that the hue and cry against it has to a great extent been prompted by the so-called eclectics, who professed to have found a "vegetable calomel" in podophyllin, and who later on found their claim proved invalid; and the homœopathic sect, who have so bitterly railed against it and at the same time use it persistently, in high and low attenuations, under the name of "mercurius dulcis" (a rose by any other name would smell as sweet). Happily, the day of bigotry and intolerance in medicine is rapidly passing away.

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THE ADMINISTRATION OF ATROPINE IN EPILEPSY.*

By F. L. WACHENHEIM, M. D.,
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Although the employment of belladonna and its alkaloid, atropine, in epilepsy is an old therapeutic procedure, the following case may be of interest as showing an exceptionally good result from the use of atropine and bromide, given according to a method differing from the usual administration of these drugs:

Rosie H., the older of two children, was born normally at term. There is no neuropathic family history. The onset of her illness dates from the age of two years, when she began to suffer from frequent convulsions. Treatment by several neurologists led to no permanent improvement, and her condition had changed but little when she first came under my observation.

She was presented to me on January 15, 1897, aged seven years. Her mother stated that she had nocturnal convulsions, also diurnal attacks consisting in turning of the head and eyes, aphasia, and impairment of consciousness. The diurnal seizures were preceded by slight toothache, and the attacks in all frequently numbered as many as eight a day. Her progress in school was retarded by her spells of "absentmindedness" and supposed inattention.

Examination showed a normal cranial conformation, no conspicuous signs of rhachitis, no paralysis of any muscular groups; no strabismus, pupillary reactions normal. There were no sensory disturbances. The intelligence was good, the child appearing rather bright than otherwise. The thoracic and abdominal examination revealed nothing pathological; the urine was normal.

Treatment was begun, according to my usual routine, with one one-hundred-and-fiftieth of a grain of atropine sulphate and ten grains of potassium bromide three times a day. The attacks rapidly diminished in number to about three a week, but the disease became stationary at this point. Early in June I decided to commence the treatment according to Flechsig, then at the height of its renown. Flechsig pushes opium for six weeks to about ten grains *per diem*, then abruptly changes to bromides, two drachms a day in divided doses. The effect of the change was far from gratifying; under opium the attacks soon increased to almost the original number, and the change to bromide caused very little improvement. This led me to think that the good results, such as they were, of the first course of treatment were largely due to the atropine, and I resolved to introduce a modification, pushing the atropine and reducing the bromide. The new procedure was begun in September, and at first the success was not brilliant; when, however, the dose of atropine sulphate had reached a fiftieth of a grain three times a day, the attacks suddenly ceased. The only symptoms of atropinism had been occasional flushing of the face and moderate mydriasis.

On December 12th, having had no seizure of any sort in eighteen days, she had tingling of the extremities, dryness of the throat, paralysis of accommodation, and a scarlatiniform rash. The medication was at once reduced to a sixty-fifth of a grain of atropine sulphate and two grains of potassium bromide three times a day. The reduction at first caused a slight relapse of some half-dozen attacks; then, after four weeks of immunity another reduction was made, and this again was followed by a few attacks. The last seizure but one occurred on March 10, 1898, when she was taking one one-hundredth of a grain of atropine sulphate and five grains of bromide once a day. Her only subsequent attack was on October 6th, after some weeks of total neglect of all treatment, which was then resumed; a two-hundredth of a grain of atropine sulphate and five grains of bromide being given daily, then on alternate days, then weekly, of late very irregularly. Progress at school has been steady since attacks became few in number. The last date of observation was April 19, 1899; and I consider the case at present under perfect control, if not absolutely cured.

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* Read before the Metropolitan Medical Society, March 28, 1899.

The treatment of epilepsy, as of most obscure affections, shows the effect of empiricism in the great variety of remedies that have been used and suggested. Belladonna, silver nitrate, copper, zinc, valerian, bromides, chloral, camphor, opium, and even strychnine have been advocated; recently *Adonis vernalis* (Bechterew), borax (Gowers), and *Solanum carolinense*. Of these, the bromides have given, perhaps, the most satisfaction, but the results, especially as regards complete cure, are by no means ideal, not to speak of the unpleasant and even dangerous effects of bromism. General treatment has, naturally, had its proper place; in idiopathic epilepsy, owing to its unknown ætiology, the causal indication can, of course, not be met.

The employment of belladonna dates back at least to Trousseau, who warmly recommended it, combined with salts of zinc and silver, increasing the dose to tolerance and marked improvement, then gradually withdrawing it. Trousseau's procedure has now fallen into almost complete desuetude, and is considered by most neurologists chiefly of historical interest, not even being mentioned in most of the text-books of to-day.

The chief objection usually made to the use of belladonna is that of its being a cortical irritant. Its critics seem to ignore the fact that it is to a much greater degree a peripheral paralyzant, and a stimulant to the spinal and medullary, including the vasomotor, centres.

Among the most obscure questions of neurology is the pathogenesis of idiopathic epilepsy. The only fairly settled fact is that we have to deal with an irritation of the cells of the cortex (Unverricht). The nature of the irritant is a matter of theory. One popular view assumes that the disease is organic, depending on proliferation of the neuroglia and degeneration of the cortical cells; that the summation of this chronic irritation produces an explosive outburst, analogous to the flash obtained from a Leyden jar. To this theory we can offer many objections, aside from the fancifulness of the oft-quoted simile of the spark in the powder magazine. First, there is the fact that the cortical cells functionate perfectly in the interval; secondly, that the attacks, if typical, involve the whole cortex simultaneously, instead of radiating from the most affected areas (cf. Jacksonian epilepsy); thirdly, that the theory begs the questions of ætiology of the anatomical condition, and does not state whether the cells are at first directly irritated or only hyperæsthetic, a most important point. The physiology of the nerve cell demands that at least in a chronic process hyperæsthesia must precede direct irritation, or be at any rate its earliest manifestation; hyperæsthesia of the nerve cell is, however, obtainable in many other ways besides the mechanical stimulus of connective-tissue growth, notably by certain poisons, such as strychnine and tetanotoxine.*

This leads up to the second theory, that we have to deal with a vasomotor neurosis of toxic or autotoxic origin, reminding us at once of Traube's theory of uræmia. Kussmaul and Tenner showed that sudden cerebral anæmia produced general convulsions. Marie first suggested a self-intoxication. This view so far best explains the occasional appearance of epilepsy after the infectious fevers, its frequent occurrence in chronic alcoholism, its marked hereditary and symptomatic relations to the other neuroses and the psychoses, and the record of a number of undoubted cures. We may give the course of the disease as follows: The primary acute intoxication causes one or more convulsive seizures, which, in turn, produce an abnormal irritability of the cortical cells; these becoming less resistant to even feebler excitation, we have at last the establishment of a *circulus vitiosus*, with a marked tendency to more and more frequent recurrences; finally, no doubt, leading to permanent changes, cell degeneration, and secondary growth in the neuroglia. The evident symptomatic indication is thus to break the above circle, even if we can not settle upon the toxic agent.

On this pathogenetic basis we may explain the action of the bromides and atropine as follows: The bromides diminish the sensibility of the cortical cells, which have become hyperæsthetic to variations in the blood supply; atropine stimulates the vasomotor centres, thereby making the blood supply more uniform. In the early stages of treatment bromides are useful to dull the irritability of the cortex until the proper vascular tonus is established. When that point has been reached, they are of less importance and may be reduced or withdrawn.

Neither the bromides nor atropine can in any way meet the causal indication. If the disease depends on a passing intoxication, these drugs will suspend the detructive action of the epileptic seizures until the *materia peccans* has ceased to act; if there is a permanent cause, as seems to exist in the majority of cases, our treatment will naturally be at best only palliative.

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* It is of interest to observe that in the circulation the poison of tetanus causes cortical hyperæsthesia, while applied to the cortex locally it is a direct irritant.

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A CASE OF

TYPHOID AND MALARIAL FEVERS.

By W. H. GERMAN, M. D.,
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On the 6th of August, 1898, Mrs. M., aged thirty-six years, American, was taken with rigors followed by fever. The diagnosis at first was obscure, but blood test showed typhoid to be present concurrently with malaria. The malarial fever was of mixed type, but more nearly approached a double tertian than any other. The case ran a five weeks' course and the patient appeared to be convalescent when, after an interval of two weeks, the chills and fever returned and the temperature showed again the typhoid course. In the relapse both typhoid and malaria were more severe than in the initial attack, the temperature reaching 105° F. in the axilla, and showing less disposition to yield to treatment. Cold baths were used systematically, the strength was supported by food and stimulants by the stomach and by the rectum, iron, arsenic, and guaiacol were administered, and quinine was given in the form of the sulphate in capsule, in solution, and in Warburg's tincture, in gradually increasing amounts. During a period of twenty-eight days 1,470 grains were given, an average of fifty-two grains and a half daily, the largest amount in twenty-four hours being a hundred and thirty-five grains. Under these unusual amounts of quinine cinchonism was not extreme. The mind was not more dull than is common in typhoid, nor was the hearing more affected. Under the largest doses, the sight, which in health was impaired, failed entirely, but improved as the quinine was lessened, and is now nearly in its usual state.

Therapeutical Notes.

The Treatment of Gonorrhœal Rhinitis in Infants.—De Stella (*Belgique médicale; Giornale internazionale delle scienze mediche*, May) recommends penciling the nasal passages with a two-per-cent. solution of protargol and the application to the nostrils of an ointment made after the following formula:

℞ White vaseline	225 grains;
Boric acid	22 "
Menthol	¾ of a grain.

M.

Ipecacuanha in Dyspepsia, with Motor Insufficiency of the Stomach.—M. Mathieu (*Presse médicale; Revue médicale*, May 17th) prescribes the following:

℞ Tincture of ipecacuanha, Tincture of calumba, Tincture of gentian,	of each, 75 grains.

M. From fifteen to thirty drops after food, in two or three doses, at half-hour or hour intervals, in a little water.

Or—

℞ Tincture of ipecacuanha	90 grains;
Saccharin	1½ grain;
Menthol	3¾ grains;
Alcohol at 80°	600 "
Syrup	1,800 "

M. From two to four teaspoonfuls after meals.

For Toothache.—Dauchez (*Progrès médical*, May 20th) recommends:

℞ Hydrochloride of cocaine.....	1½ grain;
Menthol, Crystallized carbolic acid, of each..	15 grains;
Oil of cloves..................	5 drops;
Camphorated alcohol..........	120 grains.

M.

Or—

℞ Orthoform, Carbolic acid, of each........	15 grains;
Camphor, Chloral hydrate, of each.......	60 grains.

The tooth cavity to be dried and then filled with cotton impregnated with either of these preparations.

An Intralaryngeal Application for Tuberculous Dysphagia.—The *Riforma medica* for April 28th attributes the following formula to Freudenthal:

℞ Menthol	150 grains;
Oil of sweet almonds........	450 "
The yolks of two eggs;	
Orthoform	187½ "
Distilled water, enough to make	1,500 "

M.

Ichthyol in the Vulvar Pruritus of Pregnancy.—The *Riforma medica* for April gives these two formulæ of Doizy's:

1. ℞ Ichthyol	15 parts;
Vaseline	100 "

M. For an ointment.

2. ℞ Ichthyol	10 parts;
Water	100 "

M. For a lotion.

Creolin in the Treatment of Erysipelas and Acute Eczema.—Rotae's formula is given as follows in the *Riforma medica* for April 5th:

℞ Creolin	22 grains;
Prepared chalk, Lard, each	225 "
Oil of peppermint	5 drops.

M.

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RÖNTGEN-RAY INJURIES.

Either by personal observation or by reading, physicians have now become somewhat familiar with the serious injuries that occasionally result from Röntgen-ray examinations. It is customary to speak of them as "burns," perhaps from the appearances of the persistent sloughy ulcers in which they are apt to culminate. But burns are universally recognized as injuries due to heat or to the contact of corrosives. A burn occurs at the very moment that the heat is applied, although there may be secondary lesions of slow development; as for the burn itself, it is produced instantly. On the other hand, the injuries that result from exposure to the Röntgen rays are slow in making their appearance; usually, according to Dr. Daisy M. Orleman, the "period of incubation" is from ten to twelve days, and in Dr. Orleman's own case, reported in the *Medical Record* for July 1st, it was twenty-one days. Hence it is futile to argue that these injuries are not due to the action of the Röntgen rays because Röntgen declares that they "have no calorific effects." Whatever may be the agent that gives rise to these frightful injuries, it certainly is not heat, although a burning sensation may be felt at the time of the exposure. Probably the lesion is the result of paralysis, more or less complete, of the trophic nerves of the area involved.

There are several points in Dr. Orleman's case that are worthy of mention, besides the length of time that intervened between the exposure and the occurrence of the first symptoms of trouble. Some of them are the following: The severe pains, which often prevented sleep and were not readily controlled by local analgetics and anæsthetics, but often called for the internal use of morphine; the fact that local treatment proved powerless to check the lesion until prolonged rest in bed was enforced; and the fact that finally, when skin-grafting was resorted to, the grafts "took" on tissue that looked gangrenous. But the point that seems to us to call most for comment is the fact that Dr. Orleman's ten months of suffering were wholly unnecessary, for the simple reason that the Röntgen-ray examinations (there were three of them) were themselves utterly uncalled for. A fracture of the femur had been recovered from, and the limb was in every way perfect, but one of the surgeons concerned in the case wished to have the rays applied, for what reason is not stated. We believe that, in view of the injuries that sometimes result from their employment, it is wrong to resort to them unless there is a reasonable presumption that their use will reveal some important feature of the case that would otherwise elude recognition; and our belief is that cases in which this is true are comparatively rare. Unfortunately, the point has been raised in at least one malpractice suit that the surgeon was guilty of neglect because he had not made an X-ray examination of the patient. We are firm in the opinion that the profession should with all its might repudiate this proposition, if the prospect is that it will be held to be generally applicable in cases of fracture.

We are quite aware that there are practitioners of large experience in Röntgen-ray observations, men for whose professional attainments and acumen we have the utmost respect, who declare that there is no danger in such examinations if they are conducted with proper precautions, but we confess that of this we are not convinced any more than we are satisfied by the declarations of eminent men that chloroform is as safe an anæsthetic as ether. Still, we recognize how difficult it is to restrain enthusiasts and those who can not bear to admit that others have done what they have omitted to do. We adjure such persons, however, to observe the precautions in their X-ray examinations that experienced observers have recommended, for example, those formulated by Dr. F. H. Williams, of Boston (cited by Dr. Orleman), as follows: Place the Crookes's tube two or three feet away from the patient when the fluorescent screen is used, and three feet or more away from the plate in taking Röntgen-ray pictures; and, as suggested by Tesla, interpose between the patient and the tube a thin screen of aluminum grounded by being connected with a proper wire to the gas pipe.

THE RELATION OF THE SOLDIER'S DRESS TO HEAT APOPLEXY.

Lieutenant-Colonel McCartie, of the Indian Medical Staff, contributes to the *Indian Medical Gazette* for June a most interesting communication on The Cause and Prevention of Heat Apoplexy in the Army, and one which will have special force for us in regard to our troops now serving in the tropics.

Colonel McCartie first combats, and we think satisfactorily, Dr. Sambon's views, published over a year ago in the *British Medical Journal*, that "heat apoplexy" is not caused by heat, but is an infective disease. He points out that soldiers and civilians work under such different conditions as to dress as to account fully for the prevalence of the disease among soldiers, while civilians working under a higher temperature are almost exempt. The latter wear a thin twill cotton shirt, light, loose cotton trousers, cool socks, cool light shoes, a light gossamer coat, worn open, and a thick pith hat, coming down the neck, and carry a thick umbrella; while the soldier wears clothing unnecessarily warm and so buttoned up and strapped down that the air can not circulate about his body, the evaporation of the perspiration can not go on, and thus Nature's heat-regulating mechanism is thrown out of gear. The consequences are distress, fatigue, exhaustion, fever, and heat apoplexy!

Colonel McCartie's observations are based upon considerable experience, especially during the hot-weather campaigns of 1895 and 1897. He noticed that most of the men attacked by heat apoplexy were very warmly clad, most of them wearing flannel shirts, and many even thick woolen undervests as well.

One piece of evidence recorded is very striking. In a frontier campaign in 1897 sufficient coolies could not be obtained, and part of the baggage had to be carried by native soldiers in plain clothes. Before the end of the march, says Colonel McCartie, nearly all the men in the ranks were utterly exhausted, and some of them had heat apoplexy, while their comrades doing duty as bearers and carrying a much heavier weight, but dressed in their own loose, light, rational dress, were not the least distressed.

Colonel McCartie condemns the belts and straps which go over the coat as the worst part of the soldier's dress, and advises doing away with them all. He recommends a loose Norfolk jacket with four pockets, loose trousers with two pockets in front and two behind, and a loose twill cotton shirt with two pockets. To these might, if necessary, be added a light knapsack capable of carrying the contents of the haversack and the greater part of the ammunition. A hook could be fastened in the jacket for the water bottle, and a frog attached for the bayonet.

The accommodation afforded by the pockets would do away with the necessity for belts, straps, and pouches; while, on the march, the knapsack would accommodate all the ammunition and food needed.

To sum up, the rational attire for soldiers serving in tropical climates would be light, loosely made garments of very porous material, and an entire absence of straps, belts, pouches, etc. The soldier is not dressed in parade order for fatigue duty, and campaigning is fatigue duty in the highest degree.

THE INFLUENCE OF PREGNANCY ON THE TEETH.

Our old text-books of obstetrics generally contained a warning to the effect that, if a pregnant woman submitted to the extraction of a tooth, she ran the risk of abortion as the result; and really, so far as the systematic works show, we have advanced but little beyond this in our knowledge of the influence of pregnancy on the teeth, although it is hardly to be doubted that the dentists could give us a good deal of information on the question. Considering the barrenness of our own literature in the matter, we are glad that it has been made the subject of particular investigation by M. Terrier, in a Paris thesis.

M. Terrier's conclusions are thus summarized in the *Presse médicale* for June 3d: In a great number of women pregnancy has a very decided influence on dental caries. It is particularly toward the end of the first month that toothache is apt to occur, and in many cases it is repeated toward the close of gestation, in the eighth or ninth month. The progress of caries is more rapid during pregnancy than at other times, the sensitiveness of the teeth is heightened, they are more friable, and their chemical composition undergoes certain modifications. The dental affections that may arise are attributable to two sets of causes, local and general. Among the local causes are gingivitis, a changed composition of the saliva, and acid regurgitations from the stomach. Among the general causes are (1) morbid systemic conditions and disorders of the digestive, the urinary, or the biliary apparatus (the last mentioned giving rise to a form of self-intoxication termed by M. Pinard *hépatotoxémie gravidique*), whence there result nutritive affections of the tissues in general and of the bones and teeth in particular; (2) a heightened impressibility of the nervous system, giving rise to dental neuralgia and odontalgia, which are further aggravated by the gingivitis with its passive congestion, whereby the pulp is, so to speak, strangulated in its cavity, becoming the chief cause of toothache.

The general disorders of the pregnant woman place her at a disadvantage in the struggle of her teeth against the progress of caries; the production of secondary dentin, which normally fills the dental canals and serves the pulp as a barrier against caries, is diminished, and a portion of the necessary calcium salts is diverted to the formation of points of ossification in the fœtal skeleton.

To a certain extent it is possible to prevent these affections of the teeth, and certainly it is highly desirable to make the attempt. A minute examination of the mouth and teeth at the outset of pregnancy is imperative. Every trace of tartar should be removed; if there is gingivitis, it should be treated; caries also should be treated, but care must be taken not to fatigue the patient. It is almost always practicable to fill cavities. The old caution about extraction, dating back to Antoine Petit, in the seventh year of the first French Republic, should be observed, especially in the case of very nervous women. Systematic care of the mouth should be taken during the whole course of pregnancy and lactation.

THE ARMY MEDICAL DEPARTMENT IN THE PHILIPPINES.

The medical department of the army has been severely and very unjustly criticised during the past twelve months, chiefly by critics without any practical acquaintance with the difficulties attendant on, and the peculiar conditions incident to, campaigns in foreign countries, especially tropical. It is, therefore, with great gratification that we learn through the *Boston Medical and Surgical Journal* for July 6th that Captain S. S. Long, an assistant adjutant-general in the British service (and, we may add, formerly instructor of the army service corps at Aldershot), in an elaborate report on the United States army administration in the Philippines, published in the *Journal of the United Service Institution of India*, after freely criticising all the other departments of the army, speaks in terms of the highest commendation concerning the medical department, and praises the equipment and administration of the hospitals. "The health of the troops was extraordinary," he says, "and the subject of constant remark. If the spirit of the troops was excellent, it was even surpassed by that of the medical branch, who, in spite of inadequate and defective transport facilities and many other difficulties, always had their hospitals as complete and efficient as human ingenuity could make them." This commendation is especially noteworthy, inasmuch as in the British service, more perhaps than in any other, has it been the fashion with quite a large majority of the "combatant" officers to run down the doctors.

A MIGRATORY RENAL CALCULUS.

The remote sequelæ of a deep-seated abscess are apt to be beyond our ken. An illustrative case is recorded by Dr. Babacci (Durante's *Festschrift; Centralblatt für Chirurgie*, June 17th). A woman was operated on for an abscess of the left side. The wound healed quickly, but four years later it opened again and was found to lead directly to the kidney. When pressure was made on the abdomen, pus issued from the fistula. The latter closed under treatment with drainage, frequent irrigation, and the injection of tincture of iodine. Then, three years subsequently, after an injury, a fistula formed in the iliac region. An operation resulted in the discovery of a calculus beneath the quadratus lumborum. Its exterior consisted of phosphates and carbonates, but it contained a nucleus of oxalates and urates. It is added that the tissue surrounding it was suggestive in appearance of the cortical substance of the kidney.

A BAD MOVE IN THE FIGHT AGAINST "CHRISTIAN SCIENCE."

Last week a meeting was held in the Waldorf-Astoria Hotel to consider a bill to repress the "Christian Science" practice of medicine in the State of New York. The "Christian Scientists" themselves, being invited to be present, practically managed the meeting, and it is just as well they did, for we quite agree with the *New York Times* when it says: "Of course, no such law could ever be passed; of course, it couldn't be enforced if it were passed; and, of course, it would do more harm than good if it were passed and enforced." What we want is a rigid enforcement of the present medical-practice law.

INFANTILE SPINAL PARALYSIS AND RHEUMATISM.

An "epidemic" of infantile spinal paralysis, said to be the twelfth on record, has lately been reported by Dr. Simonini (*Gazzetta degli ospedali e delle cliniche*, 1899, No. 43; *Centralblatt für innere Medicin*, June 17th) as occurring in a region in which acute articular rheumatism was prevailing, and he thinks there was some connection between the two diseases. This opinion, he suggests, derives some support from the known relation of chorea to acute articular rheumatism. Five children were affected, varying in age from sixteen months to four years. Although one of them had had rheumatism a year before, the part attributed to that disease in producing the paralysis seems to need confirmation.

"ABDOMINAL CŒLIOTOMY."

A few years ago the word cœliotomy, to denote abdominal section, was brought forward with great insistence on the part of its advocates that it was a better word for the purpose than laparotomy. We have never thought so, and the word does not seem to be universally recognized as fully signifying abdominal section, for it is getting to be more and more common to see the expression "abdominal cœliotomy" in print.

THE SENSE OF SMELL IN MEN AND WOMEN.

It seems that among the many points of advantage possessed by women over men is that of having a more delicate faculty of distinguishing odors. Apparently the fact has been clearly established by M. Toulouse and M. Vaschide, who recently reported to the Paris Academy of Medicine (*Indépendance médicale*, June 14th) that their conclusion to this effect rested upon nearly twenty thousand tests.

GESTATION IN A RUDIMENTARY UTERINE HORN.

A Russian physician, Professor Sanischin, who reports a case of this sort (*Vratch*, 1899, No. 5; *Deutsche Medizinal-Zeitung*, June 22d) is to be credited with having made the diagnosis largely on the strength of the history of the case. The woman stated that several months before she had felt fœtal movements, but that for a month they had been wanting, although her breasts had become enlarged and had secreted milk. The uterus was deflected to the left and was not enlarged. Its cavity communicated, through a broad pedicle, with a mass on the right larger than a man's head. No fœtal movements or heart sounds could be made out. Laparotomy was performed, and the diagnosis shown to be correct.

THE TRANSPLANTATION OF TENDONS.

This ingenious procedure appears to have a wider range of utility than has generally been supposed. At a recent meeting of the German Society of Surgery (*Wiener medizinische Blätter*, June 29th) Dr. Vulpius, of Heidelberg, reported eighty cases in which he had resorted to it. The cases in which he has found it serviceable include recent and old injuries of tendons, muscles, and peripheral nerves, infantile spinal paralysis, spastic paralyses, occasional instances of paralysis due to apoplexy, and many such congenital deformities as clubfoot and flat-foot.

HEREDITARY PTOSIS PALPEBRARUM.

A curious case of ptosis of the eyelids transmitted for several generations, the series having apparently been started by a "maternal impression," is recorded by Dr. Münden, of Hamburg (*Deutsche medicinische Wochenschrift*, 1899, No. 10; *Wiener klinische Wochenschrift*, June 29th). A pregnant woman became affected with ptosis in consequence of fright. She gave birth to a daughter who had bilateral ptosis. This girl grew up and had three children, one of whom, a boy, had congenital ptosis. The boy, now grown to manhood, has a child with the same anomaly.

TETANUS IN NEW YORK.

For the last week or two traumatic tetanus appears to have occurred with far more than its usual frequency in New York, and there is probably a certain element of truth in the idea that the injuries produced by the explosives incidental to our barbarous way of celebrating the Fourth of July are particularly prone to be followed by the disease. At all events, if the small boy can be made to imbibe that notion, some good may result—some saving of life and no little mitigation of the misery to which the sick are now doomed on that day.

URTICARIA DUE TO ODOROUS EMANATIONS.

The multiplicity of the exciting causes of urticaria was exemplified at a recent meeting of the French Society of Otology and Laryngology (*Progrès médical*), when M. Joal reported three cases, one provoked by the preparation of aromatic essences and preceded by spasmodic sneezing, rhinorrhœa, and vertigo, and the two others, associated with asthma and hay fever, occasioned by iodoform, carbon sulphide, the rose, the lilac, and the hyacinth.

THE UNACKNOWLEDGED CLIPPING HABIT AGAIN.

We are usually very careful in our proof reading, but occasionally errors will slip in. In our issue for May 27th we published a minor editorial on *Macular Atrophy of the Skin.* The printer unfortunately converted the word "macular" into "muscular," which error, we regret to say, escaped our notice. We have had frequent occasion to protest against the use of clippings from our columns without acknowledgment. We trust that the *St. Louis Medical Gazette* for July will be none the worse for annexing our editorial, error and all. We must again remind journals that it is our intention to drop from our exchange list such as we find repeatedly guilty of this gross discourtesy.

SQUIBB'S *EPHEMERIS.*

A new number of Dr. Squibb's *Ephemeris of Materia Medica*, etc., has appeared, dated July, 1899. It is of interest chiefly to pharmacists, for it deals entirely with acetic acid as a substitute for alcohol in extracting the active principles of certain drugs, on which subject it presents two papers.

THE YELLOW FEVER IN SANTIAGO.

It is very gratifying to learn that on Tuesday of this week the surgeon-general of the army received official information that yellow fever was on the decline in Santiago, and that the troops were free from it.

ITEMS.

A Statue to Baron Lavrey.—On June 9th, at the military hospital, Val-de-Grâce, a bronze statue by Falguière of the great military surgeon was inaugurated by General Zurlinden, governor of Paris.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending July 15, 1899:

Small-pox—United States.

Jacksonville, Fla	July 1–8	3 cases.	
Chicago, Ill	June 24–July 1	2 "	
Louisville, Ky	June 23–July 6	8 "	
New Orleans, La	June 24–July 8	5 "	1 death.
Shreveport, La	June 24–July 8	1 case.	
Boston, Mass	July 8	3 cases,	2 deaths.
Natchez, Miss	July 7	1 case.	
New York, N. Y	June 24–July 8	7 cases,	1 death.
Charlotte, N. C	June 1–30	1 case.	
Cincinnati, Ohio	July 7	2 cases.	
Cleveland, Ohio	July 1	2 "	
Portland, Ore	June 29, to date	4 "	
Philadelphia, Pa	July 1–8	4 "	
Cape Charles, Va	July 8	1 case.	
Danville, Va	July 6	3 cases.	
	Total,	30 "	
Norfolk, Va	July 6	6 "	
Portsmouth, Va	July 8	4 "	
Tacoma, Wash	July 10	3 "	

Small-pox—Foreign.

Buenos Ayres, Argentina	Apr. 1–30		1 death.
Rio de Janeiro, Brazil	May 27–June 2	77 cases,	22 deaths.
Fuchau, China	May 6–13	Prevalent.	
Havana, Cuba	June 29		1 death.
London, England	June 17–24	1 case.	
Marseilles, France	June 25–July 2	1 "	
Bombay, India	June 6–13		4 deaths.
Madras, India	May 27–June 2		2 "
Mexico, Mexico	June 25–July 2	8 cases,	3 "

Yellow Fever—Foreign.

Buenos Ayres, Argentina	Apr. 1–30		4 deaths.
Rio de Janeiro, Brazil	May 27–June 9		19 "
Havana, Cuba	July 6	2 cases.	
Santiago, Cuba	June 15–July 10	148 "	28 "
Vera Cruz, Mexico	June 29–July 6		25 "
On bark *Dolores Romano* at Vera Cruz, Mexico	July 1	7 cases.	

Cholera.

Bombay, India	June 6–13	1 death.
Calcutta, India	May 27–June 3	23 deaths.
Madras, India	May 27–June 2	3 "

Plague.

Alexandria, Egypt	June 16–23	4 cases remaining.
Bombay, India	June 6–13	53 deaths.
Calcutta, India	May 27–June 3	32 "
Tamsui, Formosa, Japan	Apr. 26–May 3	147 "

Changes of Address.—Dr. Edward Blaise, to No. 145 Himrod Street, Brooklyn; Dr. H. T. Eichacker, to No. 774 Bushwick Avenue, Brooklyn; Dr. J. L. Waldie, to No. 406 Hart Street, Brooklyn.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 8 to July 15, 1899:*

Chmelicek, Joseph F., Acting Assistant Surgeon, United States Army, will proceed to San Francisco for duty.

Echeverria, Rafael F., Major and Surgeon, United States Volunteers, will proceed to Guines, Catalina, San Felipe, San Antonio de los Banos, Madruga, San Nicolas, Jaruco, and Guanajay for the purpose of ascertaining the sanitary conditions and amount of destitution in each of the places named, and also to visit the Red Cross hospitals at these points.

Henry, Joseph N., Major and Surgeon, United States Volunteers, recently appointed, is assigned to the Thirty-first Infantry, and will proceed to Fort Thomas, Kentucky.

Howard, Deane C., Captain and Assistant Surgeon, United States Army, will proceed to West Point, New York, for temporary duty.

Kean, J. R., Major and Surgeon, United States Volunteers, is relieved from further station at Fort Warren, Massachusetts.

Reynolds, F. P., Captain and Assistant Surgeon, United States Army, will report to the chief surgeon of the department for duty as attending surgeon and sanitary inspector at these headquarters.

Richards, William E., First Lieutenant and Assistant Surgeon, United States Army, is granted sick leave of absence for one month with permission to return to the United States and apply for an extension of three months.

Russell, Frederick T., First Lieutenant and Assistant Surgeon, United States Army, is relieved from duty at Ponce, Puerto Rico, and, upon arrival of Ashford, Bailer K., First Lieutenant and Assistant Surgeon, United States Army, will report at Humacao, Puerto Rico, for duty.

Wells, G. M., Captain and Assistant Surgeon, United States Army, will proceed to San Juan and take command of the United States General Hospital at that place.

The following changes in the stations and duties of officers of the Medical Department are ordered: Bratton, Thomas S., Captain and Assistant Surgeon, United States Army, to Camp Meade, Middletown, Pennsylvania, and report to the commanding officer, Nineteenth United States Infantry, for duty, to accompany that regiment to Manila; Cleary, A. P. D., Acting Assistant Surgeon, United States Army, will proceed to Fort Screven, Tybee Island, Georgia.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending July 15, 1899:*

Baldwin, L. B., Surgeon. Detached from the Key West Naval Station and ordered to New York for treatment.

Brodrick, R. G., Passed Assistant Surgeon. Granted leave of absence for six months on account of sickness.

McClanahan, R. K., Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, and ordered to the Key West Naval Station.

Steele, J. M., Surgeon. Detached from duty in connection with the recruiting rendezvous at Baltimore and ordered home to await orders.

Young, L. L., Passed Assistant Surgeon. His sick leave is extended three months.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending July 13, 1899:*

McAdam, W. R., Assistant Surgeon. Granted leave of absence for fourteen days.

Ramus, Carl, Assistant Surgeon. Relieved from duty at the Cape Charles Quarantine Station and directed to proceed to Havana, Cuba, and report to Surgeon H. R. Carter for duty.

Foster, J. P. C., Acting Assistant Surgeon. Granted leave of absence for thirty days.

Stearns, W. L., Hospital Steward. Relieved from duty at New York (Stapleton, Staten Island) and directed to report to the Medical Purveyor, New York city, for duty.

Allen, G. C., Hospital Steward. Relieved from duty at Baltimore, Maryland, and directed to proceed to New York and report to the commanding officer for duty and assignment to quarters.

Peck, F. H., Hospital Steward. Relieved from duty at the Egmont Key Detention Camp and directed to proceed to Baltimore, Maryland, and report to the commanding officer for duty and assignment to quarters.

Births, Marriages, and Deaths.

Born.

Oppenheimer.—In Tampa, Florida, on Monday, July 3d, to Dr. and Mrs. L. S. Oppenheimer, a son.

Married.

Cater—Hutchins.—In Jamaica Plain, Massachusetts, on Thursday, June 29th, Dr. Douglas Aymar Cater, of New York, and Miss Meriel Whiton Hutchins.

Graves—Jenney.—In West Somerville, Massachusetts, on Saturday, July 1st, Dr. Frederick Clinton Graves, of Bridgeport, Connecticut, and Miss Eva Channing Jenney.

Ring—Taylor.—In Arlington Heights, Massachusetts, on Friday, June 30th, Dr. Arthur Hallam Ring and Dr. L. Barbara Taylor.

Maddox—Spring.—In Tedrow, Ohio, on Thursday, June 29th, Dr. William Hedrick Maddox and Miss Ada Florence Spring.

Died.

Geary.—In New York, on Monday, July 17th, Dr. James Geary.

Graham.—In Gravenhurst, Ontario, on Friday, July 7th, Dr. James E. Graham, of Toronto.

Le Roy.—In Brooklyn, on Friday, July 14th, Dr. Judson C. Le Roy, in the twenty-sixth year of his age.

Niedecker.—In Brooklyn, on Tuesday, July 18th, Dr. J. William Niedecker, in the thirty-ninth year of his age.

Letters to the Editor.

VACCINATION IN ITALY.

Perugia, Italy, *June 21, 1899.*

To the Editor of the New York Medical Journal:

Sir: In his presidential address to the American Medical Association Dr. Joseph M. Mathews had the goodness to call *mad people, misguided people* those who have not the good luck to be among the *believers* in the preventive power of vaccination against small-pox. It is not surprising to hear such language from fanatics; in fact it is most common to see ignorant men make use of similar vulgar expressions; but it seems to me almost incredible that the president of such a powerful association as the American Medical Association in his address showed himself so enthusiastic in his belief as to forget that respect which is due to his colleagues who do not have the same blind faith.

It may be that we antivaccinationists are "mad" and "misguided," but I feel that we are far more correct in our expressions, although we do not *believe,* but are *quite sure,* that vaccination is one of the most wonderful and most harmful mistakes into which the medical profession has ever fallen. I can assure you that if I am a madman, my madness is very contagious, because all my pupils for several years have become as mad as I am, so that several thousands of medical men in Italy are suffering now with the same kind of madness.

One of the most prominent characteristics of madness is shown in illusions and hallucinations which are accepted as fundamental truths. Now, let us see what are the main facts about vaccination and small-pox in Italy:

Italy is one of the best vaccinated countries in the world, if not the best of all, and we can prove that mathematically.

All our young men, with not many exceptions, at the age of twenty years must spend three years in the army, where a regulation prescribes that they must be *directly* vaccinated. The official statistics of our army, published yearly, say that from 1885 to 1897 the recruits who were found never to have been vaccinated before were less than 1.5 per cent., the largest number being 2.1 per cent. in 1893, and the smallest 0.9 per cent. in 1892. This means, in the clearest way, that our nation twenty years before 1885 was yet vaccinated in the proportion of 98.5 per cent. Notwithstanding, the epidemics that we have had of small-pox have been something so frightful that nothing could equal them before the invention of vaccination. To say that during the year 1887 we had 16,249 deaths from small-pox, 18,110 in the year 1888, and 13,413 in 1889 (our population is 30,000,000) is too little to give a faint idea of the ravages produced by small-pox, as these 18,110 deaths in 1888, etc., did not happen in the best educated regions of our country, but only in the most ignorant parts, where our population live just as they lived a century ago—that is, the mountainous parts of Sardinia, Sicily, Calabria, etc. Among the great number of little epidemics which produced the 18;110 deaths mentioned, I will only note the following: Badolato, with a population of 3,800, had 1,200 cases of small-pox; Guardavalle had 2,300 cases with a population of 3,500; St. Caterina del Jonio had 1,200 cases (population, 2,700); Capistrano had 450 cases (population, 1,120); Mayerato had 1,500 cases (population, 2,500). All these villages are in Calabria. In Sardinia the little village of Laerru had 150 cases of small-pox in one month (population, 800); Perfugas, too, in one month had 541 cases (population, 1,400); Ottana had 79 deaths from small-pox (population, 1,000), and the deaths were 51 at Lei (population, 414). In Sicily 440 deaths were registered at Noto (population, 18,000), 200 at Ferla (population, 4,500), 570 at Sortino (population, 9,000), 135 at San Cono (population, 1,600), and 2,100 deaths at Vittoria (population, 2,600)! Can you cite anything worse before the invention of vaccination? And the population of these villages is perfectly vaccinated, as I have proved already, not only, but I obtained from the local authorities a declaration that vaccination has been performed twice a year in the most satisfactory manner for many years past.

Vaccinationists were not puzzled by these facts, and with the greatest certainty they asserted that this enormous number of deaths was due to want of revaccination. Happily, in Italy we are able to prove that revaccination has not the least preventive power. I only give a few figures: During the sixteen years 1882–'97 our army had 1,273 cases of small-pox, with 31 deaths; 692 cases, with 17 deaths, happened in soldiers vaccinated with good result, and 581 cases, with 14 deaths, happened in soldiers vaccinated with bad result. This means that of a hundred cases of small-pox, fifty-four were in persons vaccinated with good result, and only forty-six in those vaccinated with bad result, and that the death-rate among those vaccinated with good result was 2.45 per cent. and only 2.40 per cent. in those vaccinated with bad result.

Vaccinationists say that when vaccination does not "take" the operation must be repeated, because no result means no protection given. Now, we see that soldiers not protected because vaccination did not "take" were less attacked by small-pox than those duly protected by the good result of their revaccination; and that the death-rate in those vaccinated with good result was greater than among those in whom vaccination did not "take."

Our vaccinationists did not lose their extraordinary courage before these facts, and they objected that they could be accounted for by considering that during the years before 1890 vaccination was not well performed. I can not understand this objection, but accepted it, and have limited my analysis to the last six years, during which the only lymph used in all our army has been animal lymph, exclusively furnished by the government institute for the production of animal lymph. The results are the following: The total number of our soldiers during these five years was 1,234,025, of which 783,605 were vaccinated with good result, and 450,420 with no result. In the first the cases of small-pox were 153—that is, 1.95 to every 10,000 soldiers, while in the others the number of cases was only 45—that is, 0.99 cases to every 10,000 soldiers. The "duly protected" soldiers were attacked by small-pox in a proportion double that among the "unprotected" soldiers.

As you see, these are official statements, extremely trustworthy, because the official statistics were made in a country where and at a time when no one thought that it was possible to raise a doubt against the dogma of vaccination. In our country we have no league against vaccination, and every father thinks that vaccination is one of his first duties; for these reasons no bias could exist against vaccination in making these statistics. I could continue for a long while to quote similar facts, but I wish to call your attention only to the two following ones: During the three most terrible years of epidemics that we have had in Italy lately (1887, 1888, and 1889) the death-rate from small-pox among our people of the same age as the soldiers (twenty, twenty-one, and twenty-two years) has been 21 per 100,000, and it was 27.7 during the worst year (1888). In our army the same death-rate during nine years (1867–'75) has been 20 per 100,000, and it was 61.3 during the worst year (1871).

In consequence of our young men being obliged to spend three years in the army, it happens that after the age of twenty years men are by far better vaccinated than women, and, if vaccination did prevent, after the age of twenty small-pox should kill fewer men than women. But in fact just the reverse has happened. I give here the statistics of the three years 1887, 1888, and 1889 as the ones of greatest epidemics, but all the other years give the same results:

Deaths.	1887.		1888.		1889.		Totals.	
	Men.	Women.	Men.	Women.	Men.	Women.	Men.	Women.
Before the age of twenty...	5,997	5,983	7,349	7,353	5,625	5,631	18,972	18,968
After the age of twenty...	2,459	1,810	1,990	1,418	1,296	863	5,749	4,091

After these facts I would most respectfully ask Dr. Joseph M. Mathews if he can show that in considering them I have lost my mind. At any rate, I do not consider it correct for a medical man to make use of such language against other medical men, however few, who have the only fault of considering facts as they are, and not as one wishes they should be.

The progress of knowledge has for its principal base truth and freedom, and I hope that in the name of truth and freedom you will publish these observations, badly expressed in a language that is not my own, in your most esteemed journal.

Charles Ruata, M. D.,
Professor of Hygiene and of Materia Medica in the University of Perugia.

DEATH FOLLOWING STRICTURE OF THE URETHRA.

St. Joseph, Mo., *June 28, 1899.*

To the Editor of the New York Medical Journal:

Sir: The fact that large, young, strong, and apparently healthy men are not always the subjects *par excellence* for surgical operations was clearly and forcibly demonstrated in the case of a man weighing something over two hundred pounds, of hale and hearty appearance, who found his way into the Ensworth Hospital on May 23d suffering from stricture of the membranous portion of the urethra. The man in question was employed by the St. Joseph Telephone Company as lineman, which position he held up to the time he entered this institution, a fact which goes to show that he was apparently an able-bodied man. When he appeared at the hospital it was found that the stricture was so tight that the smallest catheter could not be introduced. He was allowed to remain undisturbed until the next day about twelve o'clock. He was then put under the influence of an anæsthetic, when the surgeon managed to pass a small-sized sound, which was followed by larger ones until about a No. 20 French was introduced. This allowed the urine to flow uninterruptedly, and all trouble was supposed to be at an end.

During the next day or so the penis, scrotum, testicles, and surrounding tissues began to swell and continued to do so until quite large proportions were assumed. In the mean time the patient's temperature became abnormally high, which tended to lessen the man's vitality. After a time a small gangrenous spot was noticed on the left side of the penis, which rapidly spread until a mass reaching half around the organ and two or three inches long sloughed away. This process continued until almost the entire organ was destroyed. Finally a urinary fistula developed in the perinæum, and later on one on the side of the penis about an inch from the glans. These led to urinary infiltration, with the result that the tissues of the perinæum and penis became infiltrated with that fluid. From this time on the patient grew rapidly worse until death relieved his suffering early in June.

The question which naturally arose was, What could produce such a wholesale and rapid destruction of tissue in a man who seemed only a few days before to possess unquestioned vitality? Of course, diabetes mellitus and alcoholism were thought of. Examination of the urine failed to show any signs of the former trouble, and the patient stated that he had abstained from alcoholics for a year or more before his stricture. It might have been that a diabetic diathesis was present, or that he misinformed us as to his former habits. That there was some condition which rendered the patient incapable of standing traumatism there is no room to doubt.

It seems to me that such a case as the foregoing demonstrates the necessity of a careful examination and critical study of patients before surgical operations, especially in such a grave affection as stricture in the membranous portion of the urethra, to the end that we may avoid inflicting all unnecessary traumatism. There should be an equilibrium maintained between the amount of work done and the ability of Nature to successfully cope with the injury inflicted.

Edward A. Glasgow, M. D.,
Interne at Ensworth Hospital.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XXVIII.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(*Continued from page 100.*)

Refusal by Physician of Proffered Assistance does not Increase his Obligations.—A physician, having assumed charge of a case, the degree of knowledge, skill, and care which the law requires him to possess and exercise is not altered by the fact that he refuses the proffered assistance of other medical men. His refusal in such a case is simply an implied declaration of his ability to treat the case properly, and its effect is neither to increase nor decrease the degree of knowledge, skill, and care which the law makes it his duty to have and exercise.*

Admission of Inadequate Skill.—If, on the other hand, the physician frankly informs the patient that he has not sufficient skill or experience to treat the particular case or injury, the degree of skill that can reasonably be required of him is thereby materially decreased.† Such an admission will not, however, relieve the physician from liability when he continues his services with the assistance of another physician or surgeon. In a case of this sort the liability is a question of fact to be determined by the jury, who, in arriving at their conclusion, must determine whether there was such a degree of ignorance or unskillfulness displayed as to justify holding the defendant liable to the plaintiff in damages, notwithstanding his admission. In the case of Lorenz *vs.* Jackson,‡ the plaintiff had been injured by being struck by a piece of steel from a broken hammer, which passed through two pairs of trousers and buried itself in his left leg above the knee. After receiving the injury he rode about a mile on a handcar, and then walked about five hundred feet to his home. Soon afterward the defendant arrived and examined the wound, but was unable to find the piece of steel; he announced that the wound was of a serious character and that he did not regard himself as sufficiently experienced in surgery to properly treat the case, and advised that a more skilled and experienced surgeon be called in. Another doctor was accordingly secured. Together the doctors administered ether, and the physician last summoned probed for the piece of steel, widening the wound in the limb, and thereafter applied bandages. The doctor first summoned remained with the patient all night, administering to him hypodermic injections of morphine and atropine. The treatment continued for about eight days, when it was discovered that dry gangrene had ensued. A third physician was then called to take charge of the case, who soon determined upon and performed an amputation. Much evidence was given upon the trial respecting the treatment of the patient by the first two physicians called, but what that evidence was the report of the case does not show. The judge, upon submitting the case to the jury, charged them in effect that "if the practitioner frankly informed the patient of his want of skill, or if the patient is in some other way fully aware of it, he can not complain of the lack of that which he knew did not exist." Notwithstanding, the jury returned a verdict in favor of the plaintiff, assessing his damages at three thousand dollars. This verdict the supreme court refused to disturb.

Liability for Negligence of Student.—It has been observed that a physician and surgeon is entitled to compensation for the services of his apprentice or student practising under his direction. As a logical result, he should be held responsible for the negligence or want of skill in such assistant. This has been held to be the law in England,# and this case will probably be considered an authoritative precedent in America.

Must follow Established Practice.—One of the rules which the law strictly enforces for the protection of the public is that when there is an established practice or mode of treatment for a particular disease or injury the physician must conform to professional custom and adopt the established treatment, but will not be permitted to experiment without incurring liability for resulting injuries.*

The reason for the rule, also an indication of the extent to which it will be enforced, is well expressed in the case of Carpenter *vs.* Blake,† when the court said: "Some standard must be adopted; otherwise experiment will take the place of skill, and the reckless experimentalist the place of the educated, experienced practitioner. If the case is a new one, the patient must trust to the skill and experience of the surgeon he calls; so must he if the injury or the disease is attended with injury to other parts, or other diseases have developed themselves, for which there is no established mode of treatment. But when the case is one as to which a system of treatment has been followed for a long time, there should be no departure from it, unless the surgeon who does it is prepared to take the risk of establishing by his success the propriety and safety of his experiment.

"The rule protects the community against reckless experiments, while it admits the adoption of new remedies and modes of treatment only when their benefits have been demonstrated, or when, from the necessity of the case, the surgeon or physician must be left to the exercise of his own skill and experience."

The question of when a method of treatment is considered sufficiently settled or established as to be the only safe one for a physician to adopt has given the courts some trouble. This question is, however, one rather of fact, to be determined from the evidence of expert witnesses, than of law. In the case of Slater *vs.* Baker and Stapleton,‡ decided in England in 1767, the evidence showed that a surgeon and an apothecary were employed to treat a leg which had been broken and set. In treating this leg they rebroke it and applied a new instrument. The evidence of experts was to the effect that when the callus had formed to any degree it was bad practice to rebreak the leg; and that in the present case the callus must have formed to such a degree as to render the operation improper and contrary to recognized practice. The surgeon who performed the operation was a man of recognized ability and high professional standing. The court refused to set aside a judgment for the plaintiff and closed its opinion by saying: "For anything that appears to the court, this was the first experiment made with this new instrument, and if it was it was a rash action, and he who acts rashly acts ignorantly; and although the defendants in general may be as skillful in their respective professions as any two gentlemen in England, yet the court can not help saying that in this particular case they have acted ignorantly and unskillfully, contrary to the known rule and usage of surgeons."

In the case of Winner *vs.* Lathrop# the patient was suffering from a fracture of the radius. The defendant reduced the fracture several hours after the injury, and, so far as the evidence shows, seems to have performed the operation skillfully and in accord with the most approved methods known to the profession. There was, however, evidence given by the defendant to the effect that the defendant directed that the injured part be bathed in a decoction of wormwood and vinegar, which the expert testimony condemned.

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* Potter *vs.* Warner, 91 Pa. St., 362.

† Sherman and Redfield on Negligence, § 607.

‡ Lorenz *vs.* Jackson, 88 Hun, 200.

# Hancke *vs.* Hooper, 7 C. and P., 81.

* Hesse *vs.* Knippel, 1 Brown (Mich. N. P.), 109.

† Carpenter *vs.* Blake, 60 Barb., 488.

‡ Slater *vs.* Baker and Stapleton, 2 Wilson's R., 359.

# Winner *vs.* Lathrop, 67 Hun, 511.

The injured arm was not perfectly restored to its former usefulness; the wrist remained to some extent stiff, the rotary motion of the arm was obstructed, and the usefulness of the hand was permanently impaired. For this reason suit was brought, and judgment obtained in the trial court against the defendant for fifty dollars. The supreme court, upon appeal, was of the opinion that no unskillfulness in the treatment of the arm had been shown, and that application of wormwood and vinegar to the injury, even if proved, was not such a departure from approved medical treatment as to justify a recovery against the defendant.

A case rich in instruction upon the point in consideration is that of Jackson *vs.* Burnham.* The plaintiff was suffering from phimosis, and the defendant, instead of slitting up the prepuce, applied a flaxseed-meal poultice, which aggravated the malady and accelerated gangrene, and resulted in the destruction and loss of the organ. Upon the trial of the case the trial judge instructed the jury, among other things, that: "If you find from the evidence that this defendant, in the treatment of the plaintiff, omitted the ordinary or established mode of treatment, and pursued one that has proved injurious, it is of no consequence how much skill he may have; he has demonstrated a want of it in the treatment of the particular case, and is liable in damages." The supreme court, upon review of the case, criticised this instruction, saying, in effect, that as an abstract proposition of law it was not absolutely correct, because it did not give an opportunity for the exercise of enlightened judgment in cases involving doubt, or where there was reasonable ground for difference of opinion as to the nature of the disease and the proper mode of treatment. But as applied to the present case, where the evidence showed by a strong preponderance that the disease from which the plaintiff was suffering was phimosis, and that the proper method of treating this condition is to slit the prepuce to the corona, relieving the tension or strangulated condition and permitting the restoration of circulation, the instruction could not have misled the jury to the prejudice of the defendant.

In cases of this sort the court held that the test by which to determine whether a physician is bound to follow a particular mode of treatment for a given condition is whether or not that mode of treatment is upheld by a consensus of opinion of the members of his profession. The court said when the method of treatment is so upheld, "it should be followed by the ordinary practitioner; and if a physician sees fit to experiment with some other mode, he should do so at his peril."

For the purpose of more fully illustrating the application of the rules and principles of law laid down in the foregoing pages of this chapter the character of the defense of the defendant in this case will be examined. The defendant admitted that the proper remedy for phimosis was that testified to by the expert witnesses and above given; but he denied that the plaintiff was suffering from phimosis. He maintained that the swollen condition of the organ was the result of an ulceration of the urinary canal and that the treatment prescribed for him was proper for such a condition. The defendant's counsel urged that, admitting the defendant had erred in diagnosticating the case and that the true condition was phimosis, then the error was one of judgment for which the defendant could not be held responsible.

Upon the trial of the case, after all of the evidence was introduced, the trial judge properly instructed the jury upon the duties of the physician: that he must possess ordinary, etc., skill and knowledge; that he must use ordinary care and diligence; and that in all cases of doubt he must use his best judgment; but that in cases where competent physicians might honestly differ as to the nature of the disease the defendant should not be held responsible for an error of judgment reached by the exercise of due skill and care, etc. While the records of the case do not show that there were any special findings of fact returned by the jury, yet the conclusion necessarily follows from their verdict, which gave the plaintiff damages to the amount of five thousand dollars, that they found, from the evidence submitted, either that the defendant was incompetent or, if competent, that he did not exercise ordinary skill and care in diagnosticating the case; and that the case was not one in which competent physicians might honestly differ in their opinion as to the nature and extent of the disease after making a careful and proper examination.

(*To be continued.*)

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* Jackson *vs.* Burnham, 20 Colo., 532.

Pith of Current Literature.

The Nature of Rheumatic Arteritis.—M. Blot (*Gazette hebdomadaire de médecine et de chirurgie*, June 18th), in a thesis at the faculty of Lyons, states as a result of careful investigations by autopsy that arterial complications in acute articular rheumatism have for their cause an embolus, and are not directly due to the rheumatism itself. The embolus originates from clots or intracardiac vegetations.

The Late Mr. Lawson Tait.—The *Journal de médecine de Paris* for July 2d contains one of the most admirably appreciative notices of this distinguished surgeon that have come under our notice.

The Effects of Baths, Massage, and Exercise on the Blood Pressure.—Edgecombe and Bain (*Journal of Physiology*, vol. xxiv, p. 48; *Edinburgh Medical Journal*, July) have used the hæmadynamometer of Oliver to observe the influence of various physical agents on the blood pressure in man. To ascertain the effects of temperature, cold, warm, and hot water baths were employed; also the Turkish, Russian, and sitz bath. The action of the needle bath and douches were also studied, as well as saline, sulphur, and artificial Nauheim baths. Wet and dry massage, and severe and gentle exercise, complete the list. The conclusions are as follows: 1. Cold baths of plain water raise the arterial pressure and lower the venous pressure; after reaction, the arterial pressure falls and the venous rises. These results seem to depend on change in the peripheral resistance. The cold needle bath has a more pronounced effect. 2. Hot baths lower both arterial and venous pressure. This seems due to dilatation of all the vessels and consequent increased capacity. 3. Turkish baths lower the arterial and venous pressure to a still greater extent. The pulse rate is greatly increased. Besides the vascular dilatation, there is probably a diminished output of the heart. 4. Saline baths at warm temperatures lower the arterial pressure to a greater extent than plain water baths at the same temperature. The artificial Nauheim bath is still more active. 5. Dry massage lowers the arterial pressure and raises the venous pressure, provided the abdomen be not massaged too vigorously; if this be done, a rise occurs in both. The factor affected seems to be only the peripheral resistance, the heart output remaining unchanged. The first result is due to peripheral relaxation, the second to dispersal of blood from the splanchnic area to the systemic circulation. 6. Warm water plus massage (Aix douche) lowers the arterial and raises the venous pressure to a greater extent than dry massage. 7. The effect of exercise on the blood pressure depends on the severity of the work done. In all forms there is an initial rise. If the exercise be mild, so as not to affect pulse and respiration, a fall occurs; if severe, the initial rise becomes increased. After exercise a fall takes place. The venous pressure is raised all through.

Typhoid Fever among our Soldiers in the Late War.—Dr. Victor C. Vaughan (*American Journal of the Medical Sciences*, July), who was appointed in August, 1898, by Surgeon-General Sternberg, in conjunction with Major Walter Reed, United States army, and Major E. O. Shakespeare, United States army, on a commission to inquire into this subject, says:

"To summarize concerning the so-called protracted malarias reported by the regimental surgeons, we will say that, in our opinion, practically all of these were typhoid fever, and the following are our reasons for this opinion:

"1. The uneven distribution of the so-called malaria among regiments encamped side by side gives us cause to suspect that these were not malaria.

"2. Some of the surgeons who failed to record their cases as typhoid state in their comments that typhoid fever prevailed in the regiment. One illustration of this may be of interest. From April to November there were in the Sixth Ohio, according to the recorded diagnoses in the monthly reports, only two cases of typhoid fever. Notwithstanding this fact, the acting assistant surgeon in charge at that time writes in the October report the following statement: 'The health of the command is improving. The prevailing disease that has caused the sickness we have had is typhoid fever.' And yet the September report showed only one case of typhoid fever, and the October report showed only one case, and this one case was one and the same patient carried from the August report on to the reports for September and October.

"3. The results of several hundred blood examinations show that malaria was a very rare disease among the troops that remained in the United States.

"4. Malaria as it exists in this country is easily controlled by moderate doses of quinine. All the so-called protracted malarias in our camps were treated with large doses of quinine and were not improved thereby. Consequently, we must conclude that the diagnosis given these cases was erroneous.

"5. The mortality of the so-called protracted malarias corresponds with the mortality of typhoid fever, and furnishes most positive proof that these cases were not malarial."

As regards the question of changing camps, Dr. Vaughan says:

"The influence of change in location of camps upon the continuance of typhoid fever is exceedingly interesting. We have not investigated this subject as thoroughly as we hope to do. At present, however, I think that we can give the following conclusions:

"(*a*) A regiment thoroughly infected with typhoid fever does not lose the disease when it changes its locality, even when it goes to a perfectly unobjectionable site and leaves all its sick behind. Evidence of this is shown in the history of the whole of the Second Division of the First Army Corps when it moved from Chickamauga to Knoxville. At Chickamauga Park this division became thoroughly saturated with typhoid fever. After reaching Knoxville, and notwithstanding the fact that the camp site was probably as fine as any in the world, the water supply unobjectionable, the nature of the soil suitable for the digging of sinks, surface drainage good; notwithstanding all of these advantages, typhoid fever prevailed more largely than it did at Chickamauga. It is altogether probable that the clothing, blankets, and tentage of the men became thoroughly infected with the typhoid bacillus. When a regiment becomes saturated with typhoid fever, change in location alone is not sufficient to get rid promptly of the disease. We believe that it will be necessary in such a case thoroughly to disinfect clothing, blankets, tentage, etc.

"(*b*) If a regiment be moved before the infection has become marked, typhoid fever may disappear or at least decrease.

"(*c*) Apparently a sea voyage of some days or weeks might rid a command, not widely infected with typhoid fever, of the disease. We have some illustrations of this in the troops that went to Cuba. For instance, about half of the First Volunteer Cavalry went to Cuba, while the other half remained at Tampa. Before the departure for Cuba, and while the regiment was all together, typhoid fever appeared, and its prevalence was confined to those companies that went to Cuba. Apparently this part of the regiment lost its typhoid fever on its way to Cuba, while the part that remained behind became badly infected.

"(*d*) A regiment thoroughly infected with typhoid fever does not lose the disease or lessen the number of cases after a short voyage at sea. This was illustrated by the Nineteenth Infantry, which, after becoming thoroughly infected with typhoid fever, was transported to Porto Rico. The progress of the disease apparently was not in the least retarded by this voyage."

Measuring the Intensity of the Heart Tones.—Dr. Albert Abrams (*Medical News*, July 8th) thus concludes a paper on this subject: 1. The loudness of the heart tones may be measured by testing the distance to which they are transmitted from their clinical point of auscultation. 2. This may be determined by two methods. The first method consists of measuring the distance to which the heart tones are propagated along definite routes on the chest. The second method consists of introducing between the stethoscope and the chest wall a soft-rubber rod of varying length, the tones gradually becoming less distinct as successive rods of increasing length are employed. 3. Of the two methods the latter is by far the more accurate, although this by no means represents an ideal attainment. 4. The employment of either method does away with memory in observing the progress of the strength of the heart in individual cases, and enables us to distinguish more easily any accentuation of the tones. 5. The order in which the tones can no longer be heard is as follows, beginning with the weakest tones: First aortic, first pulmonary, second tricuspid, second mitral, second aortic, second pulmonary, first tricuspid, and first mitral tone. 6. Until a universal stethoscope is employed we can not hope to make the method of measuring the heart tones of general application, but must content ourselves with the application of the method to individual cases. 7. The first point beyond the hepatic region where the cardiac tones are no longer audible marks the lower border of the liver.

Celluloid Thread for Sutures and Ligatures.—Pagenstecher (*Deutsche medicinische Wochenschrift*, April 6th; *Medical News*, July 8th) takes a good thread, boils it for half an hour in a one-per-cent. solution of soda, washes it in boiling water, and then dries it between sterile compresses. He then soaks it in a solution of celluloid, and passes it again through the same solution. Afterward it is sterilized by steam under pressure, and preserved for use either dry or in an alcoholic solution of bichloride of mercury. Such threads have a smooth surface, they never tangle, they can not absorb secretions, and are easily tied. For three years Pagenstecher has used these celluloid threads, to the exclusion of silk, and the use of catgut for ligatures has been greatly reduced. The results have been of the best, and the saving in expense considerable.

Epilepsy from Abuse of Coffee.—Marburg (*Wiener klinische Rundschau*, May 21, p. 337; *Medical and Surgical Review of Reviews*, June) records the case of a previously healthy married woman, aged forty-four years, with a good family history, who acquired the habit in 1893 of eating daily from five to ten drachms of roasted coffee beans, while continuing to drink coffee in the ordinary way. Tremors of the hands and spasms followed, and finally in 1897 genuine epileptic convulsions, in which urine was passed unconsciously, and the tongue was bitten. These recurred regularly every fortnight or oftener. In 1898 she was unable to obtain the coffee, and though at first the fits continued, since the end of November, 1898, there has been only one, and that after an indiscretion in diet. Syphilis, hysteria, and the menopause could be excluded as causes, and since alcohol, mercury, lead, ergotin, chloroform, ether, and other poisons can produce epilepsy, it seems very probable that the writer's view that the coffee was the cause of the attacks is correct, especially since the number of the fits decreased when the coffee was relinquished.

Obscure Case of Abdominal Pain Complicated by Morphinism.—The *Medical Age* for June 25th publishes the following graphic description of a case by the late Dr. William Pepper:

"The face, if rightly read, may be an open answer to many an otherwise unsolved problem. We can learn much from a man's expression if we will but look. For example, here is a man whose face at once attracts and interests me, which will prove a clew, I think, to the solution of his hitherto unexplained case.

"We are told that he has been unable to work for nine years, and for the major part of that time has been in bed, owing to an illness which has lasted during that period of time. But his complaisant, contemplative, half-contemptuous look is not that of a man worn out by chronic disease. In the first place, there are not many chronic troubles which last ten years, and when they do they make their marks as they go along; the patient is slowly broken down; piece by piece his strength, his courage, and those properties which go to make up what we call 'self,' are slowly sapped. This man's face does not present such a story; it is rather the face of a man who has been accustomed to see his case baffle his doctors, without experiencing the depressing influences of an organic trouble. Then, again, he tells a different story from that which a chronic case would relate. Let us hear it.

"At the outset, nine years ago, he began to experience paroxysmal attacks of pain in the upper zone of the abdomen. These pains grew worse through the attacks, until they were somewhat relieved by spells of vomiting. Later the pain became more or less constant, with these occasional exacerbations. The matters vomited were very offensive, liquid, blackish in color, but so far as I can determine not known by microscopic examinations to be blood or bile. The pain, he says, ran across his body from the left just below the edge of his ribs, and was of such a sharply defined nature as to make him suspect that some animal was darting to and fro. His skin at the same time seemed to be hyperæsthetic; with this, occasionally, he had periods when he suffered from retention of urine. From the account it would appear that the catheter did not carry off the water until the bladder walls were stimulated to action by outside irritation, such as punching or kneading.

"The patient went into a hospital after being under treatment for two years outside without relief. Here, to quiet his intense paroxysmal pain, he was given morphine; this practice was kept up for eighteen months, until he was in the habit of taking five grains hypodermically in the twenty-four hours. Since dismissal he again experiences the pain, though less intensely, and has reduced his morphine-taking. As he lies here to-day he tells us he is here to do or die, that he is willing to undergo any operation or course of treatment, however rigorous, if he is only relieved. As we approach this case, let us first endeavor to analyze the course of his trouble. We seem to have three stages: First, the developing disease; secondly, morphine-eating; and thirdly, a decrease in morphine-taking with a recurrence of the original pain; for he confesses to the occasional use of that drug, which, after careful examination, we find is taken pretty regularly during the day.

"It has always been my experience that when morphine has been given for any length of time for the relief of pain, there occurs a mimicry of the disease on the gradual withdrawal of that drug—a simulating of the original aches and pains, which imitate the real complaint so cunningly that it is often difficult or impossible to decide their true source. We will remember this element when we reach the history of the trouble again. The fact complicates an originally obscure case.

"It was not nephritic colic; here the pain is anterior, in the renal region, along the course of the ureter, and the passage of a calculus is common. Vomiting is common, but the case is clearly not of this sort. Neither is it hepatic; true, it is abdominal, but there never have been jaundice or gallstones found after careful search. This reduces it to gastralgia or enteralgia. The position of the pain and the other signs all point to the stomach as the original seat of the trouble.

"This was true probably nine years ago, but what of the condition to-day? It will be necessary to eliminate the morphine element before we can study the case successfully or intelligently. Without demonstrable organic lesion, it is never safe to attempt to diagnosticate any case into which such a factor enters. Then we will study what is left; new symptoms will probably rise up which will furnish good data.

"In conquering the morphine habit it is necessary for the physician and patient to work hand in hand; there must be forbearance and patience and sympathizing encouragement on the one side, and conscientious, earnest endeavor on the other. In such a condition of things it will be possible to overcome this dread trouble, but it can be done in no other way. Simultaneously with this will be established a tonic nutrient treatment, a regular diet, and good moral control. Electricity may be used to tone up the system. Some analgetic which is not an anodyne will be given, such as antipyrine. We will not attempt any lavage or nephrectomy, however, until we clear up the case sufficiently to make a diagnosis reasonably certain and not mere guesswork."

A Case of Spinal Sarcoma.—Dr. G. T. Howard (*Intercolonial Medical Journal of Australasia*, April 20th), in a paper read before the Medical Society of Victoria, records a case which seems to offer a rather unique opportunity of studying compression of the cord, due to causes not tuberculous and not traumatic. A girl, aged fifteen years, shop assistant, complained of severe pain in the lumbar region about the middle of November, 1898. After two days' rest she was able to resume work, but was not quite well, being very easily tired; could not stoop easily, but held herself very straight, and was pained in the back by any little jar or jolt.

On December 24, 1898, she again complained of severe pain in the region of the right loin. She was admitted to the hospital on January 13, 1899. She then complained of spinal lumbar pain, as well as pain in right loin and right leg. The pains began on the right side about the sacro-iliac joints, and then went to the back, hips, right knee, right tibia, and right ankle. There was very severe pain in the back and right leg on the slightest movement; she was unable to move her feet; there were no symptoms pointing to involvement of the brain, or digestive, circulatory, reproductive, or respiratory systems. The temperature was 99° F.; the pulse 104, feeble and regular. The urine was scanty, 1.015, very offensive, alkaline, containing a trace of albumin, but no pus. The right ankle and knee were tender, but not red. A bedsore about two inches in diameter, over the sacrum, had been there about a week. Her previous health was good. There was no family history of tuberculosis and no history of spinal injury.

A week later (January 22d) there was complete motor paralysis of both lower extremities; no patellar nor plantar reflexes; complete anæsthesia of the right foot; some loss of sensation in the right leg; sensation in the left leg practically normal; retention, occasionally incontinence, of urine, and incontinence of fæces. She did not feel either urine or fæces coming away, but felt the bed wet afterward, or smelled the fæces. One inch from the spine in the upper lumbar region, on the right side, was an apparently semisolid, elastic swelling, about three inches by two inches, raised not more than a third of an inch from the surface, smooth, uniform, and not tender on pressure. No spinal tenderness could be elicited. The temperature had varied from normal to 101° F.; the pulse was about 100; the urine still alkaline.

The most probable diagnosis seemed to be tuberculous disease of the spine, causing transverse myelitis, and compressing the cord. The swelling was supposed to be a thick-walled lumbar abscess, and it was decided to explore.

On February 7, 1899, Mr. F. D. Bird cut down on the lumbar swelling and found it to consist, not of pus, but of a gelatinous-looking material, which Dr. Mollison pronounced to be round-celled sarcoma. Mr. Bird only removed some small particles for microscopic examination. The wound healed satisfactorily, but the onward course had been steadily downward. The temperature had varied from normal to 101° F.; the pulse between 100 and 120. There was still retention of urine and incontinence of fæces. The sacral bedsore had become much wider and deeper; there was also a large new one over the right hip, two inches and a half in diameter, and so deep as to expose the muscles, while two smaller ones had developed quite recently. None of these, Dr. Howard felt convinced, were due to careless nursing. There had been very rapid wasting, and the patient was then practically skin and bone. There was complete motor and sensory paralysis of both lower extremities, but no pain anywhere except just above the tumor. The urine was light straw color, 1.010, faintly acid, containing a good deal of mucus, a little albumin, but no pus. The tumor had increased markedly in size, being about five inches by four inches, and was about three inches above its base. It was uniformly smooth, and mostly tense, being apparently cystic in two or three places—looking as if it were going to fungate.

Since the operation the only special treatment had been one sixth of a grain of morphine three times a day, and the patient declared she felt splendid.

This case seems to the author to be interesting, not only from its extreme rarity, but mainly from the great difficulty in diagnosis. The preliminary pains might, in addition to spinal lesions, have been due to rheumatism, colic (renal, biliary, or intestinal), appendicitis, perinephritis, sacro-iliac disease, or hysteria. Gradually all the non-spinal lesions were eliminated, and the physicians were restricted to some lesion or lesions causing, at first, *local* spinal pain, as well as pain along the course of the *right* lumbar and sacral nerves, and subsequently complete motor and sensory paralysis of the lower extremity, as well as very acute bedsores and rectal and bladder trouble. A compression involving the whole thickness of the cord, myelitis, would account for these symptoms, and the question then was, What was causing the compression? Before operation, it seemed most likely that spinal caries was the cause, and the extra spinal swelling, somewhat simulating lumbar abscess, seemed to confirm the diagnosis. Hydatid was thought possible, but not probable, and malignant disease was not thought of at all, in spite of the rapid onset. The cystitis came on with such suspicious rapidity as to justify one in looking upon it as a "trophic" lesion, rather than, as it often is, simply a result of retention. The loss of patellar reflexes was interesting, and was probably due to the fact that the reflex centres in the lumbar enlargement had been destroyed. About defæcation, the incontinence admitted of two explanations—one, that the centre in the lumbar regions was destroyed; the other, that it was intact, but that fibres conveying volitional influences from the brain had been interfered with, so that it simply became a purely reflex act. The retention was probably due to paralysis of the detrusor, due to destruction of the reflex centre in the cord. The first bedsore was so rapid in its onset, within a week from the time the patient took to bed, as to suggest serious disease of the gray matter of the cord.

A lesion, such as the visible tumor, would not cause all the symptoms—*e. g.*, bladder and rectal, nor bedsores, nor paralysis on left side. Hence, there must be two lesions—one within the vertebral canal (involving the cord and its membranes), and the other constituting the now plainly visible tumor. Which was primary and which secondary remained to be seen. According to Gowers, sarcoma of the cord and its membranes is rarely secondary.

Strychnine in Opium Poisoning.—Dr. R. D. Pennefather (*British Medical Journal,* June 24th) was called at 7.30 P. M. on May 5th to see a stout lady aged about thirty-eight years. She was in a comatose state—the pulse at the wrist was imperceptible, the heart sounds were extremely faint, respiration gasping, about six to the minute, the pupils pinhole, the skin moist and warm. She had gone to bed at 3 P. M., having been nursing a friend for the previous sixty hours, during which time she had had no sleep, and scarcely any nourishment. Dr. Pennefather found beside the bed an empty glass smelling of opium. Having tried in vain to rouse her by flicking with a wet towel and vigorous friction to the limbs, he gave her a fiftieth of a grain of strychnine hypodermically. Almost immediately the muscles of the face and arm twitched, then she opened her eyes, and when sufficiently aroused to swallow she was given a pint of strong coffee. There was some difficulty in keeping her awake for a couple of hours. She made a rapid recovery and admitted having taken fifty minims of laudanum, as she had frequently done before. She may not have taken more, but on account of the exhaustion, the opium might have taken much greater effect. Dr. Pennefather considers this case to show what an invaluable agent strychnine is in such cases.

Urinary Incontinence Treated by Tightening the Sphincter Vesicæ.—At a meeting of the Montreal Medical Society Dr. Lapthorn Smith (*Canada Medical Record,* March) reported the following case: Mrs. M., aged forty years, had had a very severe instrumental labor about a year previously, ever since which time she had had to wear large pads to catch her urine. Her physician was unable to stop it in any way. If she remained in bed she could hold her water for an hour or two, and then it would trickle out if she moved or took a long breath, and when she went about her work it kept running all the time, keeping her clothes wet and always smelling of urine. Dr. Smith put her on his usual tonic treatment—namely, a mixture of iron, strychnine, and phosphoric acid in full doses—and in order to observe her better took her into the Samaritan Hospital for a fortnight. A careful examination failed to detect any fistula; in fact, in the process of filling her bladder with warm salt solution the latter flowed out by the side of the catheter; there seemed to be no life in the sphincter. There were a large proctocele, a cystocele, and a lacerated perinæum. Although he had seen a great many patients with this condition, quite commonly causing desire to micturate frequently, and also with a sensation as though some urine still remained in the bladder, as indeed it did, yet he did not remember to have had a case in which it caused incontinence. He therefore feared that the cure of these conditions alone might not suffice to cure her of her trouble, and he had some intention of, at the same time, shortening the relaxed sphincter. This he found was quite easy to do, when he had removed the vaginal mucous membrane to the extent of two inches and a half in length and an inch and a half in breadth. In order to tighten the sphincter he made the denudation farther down toward the meatus than usual, and, instead of drawing the edges surrounding the denuded area with a purse-string suture, as he usually did, he tightened the sphincter by means of a running catgut suture which was buried in the muscular layer of the bladder right down to the urethra. The vaginal mucous membrane was then accurately brought together over this. Hegar's operation on the posterior vaginal wall was then done, with a buried and a superficial row of catgut. This made a good support for the bladder. Fortunately, the catgut was good and the patient's tissues were healthy, so that in both primary union was obtained. The result was all that could be desired. She could cough and turn in bed from the first day without wetting herself, and at the end of two weeks she could walk about with comfort and without a single drop of urine passing involuntarily.

Chrysarobin for Warts.—Dr. G. W. Fitz (*Boston Medical and Surgical Journal,* June 29th) treated a wart on the plantar aspect of the foot with salicylic acid in collodion for three weeks without effect. He was then led from its superficial resemblance to the lesion of psoriasis, viz., bleeding points, to try a solution of chrysarobin in gutta percha. The wart was thoroughly pared to profuse bleeding and the solution applied to the denuded surface. The patient was directed to cut the surface every night and apply the chrysarobin. In a few days the pain disappeared and the wart seemed diminished in size. In two weeks' time the wart was practically gone and the surface restored to its normal condition.

Since that time Dr. Fitz has applied chrysarobin in eight cases of warts similarly located which had been treated for months by salicylic acid without success. In most cases the chrysarobin produced little effect before the end of the first week, except that the pain became less and the wart did not increase; in the second week change was rapid in most of the cases, although in a few cases there was still little effect. In the third week the majority were cured. In the series of eight cases there have been no failures. Two apparent failures were traced to difficulty in paring the wart, and so soon as this was remedied by sandpapering the cure progressed favorably. Careful thinning of the surface with a sharp, fine glass-paper gives better results than paring with a knife, as the patient is less afraid of injuring himself and can more conveniently handle the paper. Chrysarobin may be applied either in a ten-per-cent. solution of the ordinary gutta-percha solution or in a ten-per-cent. ether solution at night, and the patient should put on an old stocking, to prevent soiling the bed clothing. Application once a day in this way seems ordinarily to be sufficient, but in obstinate cases it should be applied both night and morning. Chrysarobin seems to act not only upon the keratinized portion of the skin, but also upon the proliferated blood-vessels in the papillary central part, for both disappear and true skin is formed over the surface. No scab is thrown off, but a considerable thickness of the surface is removed in each case by cutting and sandpapering. In one case of warts on the hand it had the same favorable effect. Experiments with chrysarobin on corns show that it has practically no effect upon them.

A New Explanation of the Origin of Choked Disc.—J. Deyl (*Wiener klinische Rundschau*, April 13th; *Medical Age*, June 10th), after much investigation, states that choked disc is the result of compression of the vena centralis retinæ at its emerging point, or before, by the outer sheath of the optic nerve, which is forced apart from the nerve fibres in the pial sheath by pressure from hydrops intervaginalis or an extravasation of blood. The dural sheath thus expanded into an ampulla, bends and compresses the vena centralis until the circulation is partially arrested. The accumulation of fluid in the anterior portion of the space between the sheaths is caused by increased intracranial pressure, or by some occlusion of the optic foramen. This occlusion may also occur with a tumor of the hypophysis or in acromegalia in certain anatomical conditions, in which case the choking of the nerve head is due to stagnation of lymph and consequent compression of the vein. As long as the ampulla-shaped dilatation of the dural sheath does not reach to the emerging point of the vein, "choked disc" does not occur, even with pronounced hydrops. And after the dilatation has subsided, from recession of the fluid after trephining or healing of the intracranial affection, the expanded sheath collapses, the pressure is removed, the circulation is reestablished in the vein, and the choked disc condition is ended, but is liable to recur with a renewal of the circumstances. Tuberculous, syphilitic, and other lesions may also compress the vein at its emergence and cause the choking. The vein is not compressed in its farther course, but rather dilated, which refutes the theory of primary œdema. The writer calls attention to the new sign, the impossibility of artificially controlling the pulsation of the papillary arteries, which in many cases will distinguish a cerebral tumor from a renal affection as the cause of choked disc.

Book Notices.

An American Text-book of Diseases of the Eye, Ear, Nose, and Throat. Edited by G. E. de Schweinitz, A. M., M. D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia, etc.; and B. Alexander Randall, M. A., M. D., Ph. D., Clinical Professor of Diseases of the Ear in the University of Pennsylvania, etc. Illustrated with Seven Hundred and Sixty-six Engravings, Fifty-nine of them in Colors. Philadelphia: W. B. Saunders, 1899. Pp. 3 to 1251. [Price, $7.]

The presentation of a work containing an account in one volume of the diseases of the four organs mentioned will be of great advantage to a large number of the profession throughout the country. The character of the work is of a high order, but it seems to us more a work for the specialist than for the general practitioner.

The portion of it devoted to the eye is divided into twenty-four sections by as many different authors. To this are added seven sections on the operative surgery of the eye. Finally, there are seven sections covering the subjects of color blindness with special reference to the examination of railway employees, the standards of form and color vision required in railway service, the Röntgen rays in ophthalmic surgery, the practice of ophthalmic operations on animals' eyes, and the most important micro-organisms having ætiological relationship to ocular diseases.

Part ii is devoted to the ear, and consists of thirteen sections by fourteen authors. It may be stated here that the "collaboration method" employed in this work demonstrates to a satisfactory degree its value and great use.

Part iii contains twenty sections on the anatomy, physiology, and diseases of the nose and throat by eighteen different authors.

This is a valuable text-book for the library of the specialist. Some of the subjects are treated somewhat too briefly, from the reviewer's standpoint, but the essential points are all here. The volume is not an easy one to handle, on account of its size, but the paper, though glazed, is good, and the typography is very good.

The Surgery of the Head and Neck. By Levi Cooper Lane, A. M., M. D. (Berol.), M. R. C. S. Eng., LL. D., Professor of Surgery in Cooper Medical College, San Francisco. Second Edition. Philadelphia: P. Blakiston, Son, & Co., 1899. Pp. xxx–7 to 1180. [Price, $5.]

The second edition of this interesting work on the special surgery of the head and neck has been brought fully up to date by numerous additions to the text and by the introductory chapter on bacteriology, antisepsis, and asepsis.

The volume is divided into thirty-five chapters, with a hundred and ten illustrations. Under the head of erysipelas we note the author has failed to mention the value of cultures in the diagnosis of doubtful cases. His treatment is also, perhaps, rather too radical. After mentioning numerous drugs and methods he sums up by saying: "Nearly all of them bring some relief and ameliorate the patient's condition; but in none is the hope of a cure realized except by the subdermal method last given."

The method advised consists in a hypodermic injection of a three-per-cent. solution of carbolic acid "in front of the advancing erysipelas." We think no method justifiable which exposes the patient to direct infection into the circulation; besides, we have seen cases do remarkably well under the use of a twenty-per-cent. solution of ichthyol or a strong solution of bichloride of mercury applied directly to the surface.

Again, under the head of incised wounds of the scalp, he urges the use of metallic sutures, especially those of copper wire which has been heavily plated or gilded.

We think the employment of catgut which has been properly sterilized answers every purpose and simplifies the treatment. The writer gives catgut a place, but thinks its absorption too rapid, but why should we not use heavier or chromatized gut?

There is necessarily some repetition in the book, for the different regions treated have a number of affections in common, and they are discussed separately.

The chapter on plastic surgery has a number of valuable suggestions and is rich in illustrations.

The author's description of intubation of the larynx would be improved by adopting Northrup's position.

"The position of the head should be as though it hung from the top of the head," instead of, "the head turned backward," etc.

The type and arrangement are good and make an attractive page.

Die Zuckerkrankheit. Von Dr. med. Otto Hezel, pract. Arzt in Wiesbaden. Leipzig: C. G. Naumann, 1899. Pp. viii–333. [*Medicinische Bibliothek für practische Aerzte,* Nos. 148–152.]

One of the best of this excellent series of small textbooks is this recent number on glycosuria. No pretence is made of presenting the subject in a strictly original manner, the object of the book being simply to give in a condensed form the main facts which are known concerning the various diseases that give rise to the symptom of sugar in the urine, leaving polemics to larger treatises. As the series is prepared for practising physicians, that part of the subject which concerns treatment has been given with special fullness.

Marriages of the Deaf in America. An Inquiry concerning the Results of Marriages of the Deaf in America. By Edward Allen Fay, Vice-president and Professor of Languages in Gallaudet College, etc. Washington: The Volta Bureau, 1899. Pp. vii–527.

This volume owes its appearance to a fortunate conjunction of circumstances, the possession of sufficient funds for its publication by the Volta Bureau and the fact that the author was able to arrange a special investigation in connection with his official position on the staff of the Eleventh Census. The number of marriages thus collected is sufficiently great to render conclusions drawn from them of value. A difficulty which was met with at the outset was to accurately separate those congenitally deaf and those in whom the condition was the result of disease during infancy. It is often impossible to decide absolutely, but a judgment can often be formed from the probability that the congenital cases will have some history of ancestral deafness. In general the discussion of the results show that among the children of deaf parents deafness is quite frequent, the proportion being as high as eight per cent., and that the percentage is higher in children born of congenitally deaf than of those born of adventitiously deaf parents. Many other points are entered into and carefully studied, but it is impossible to abstract them here. The volume is certainly a most valuable contribution to our knowledge of this interesting and important subject.

BOOKS, ETC., RECEIVED.

The Mineral Waters of the United States and their Therapeutic Uses. With an Account of the Various Spring Localities, their Advantages as Health Resorts, Means of Access, etc. To which is Added an Appendix on Potable Waters. By James K. Crook, A. M., M. D., Adjunct Professor of Clinical Medicine and Physical Diagnosis at the New York Post-graduate Medical School, etc. New York and Philadelphia: Lea Brothers & Co., 1899. Pp. viii–17 to 588. [Price, $3.50.]

An Introduction to Dermatology. By Norman Walker, M. D., Assistant Physician for Diseases of the Skin to the Royal Edinburgh Infirmary, etc. With a Frontispiece, Twenty-nine Plates, and Thirty-four Illustrations in the Text. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent, & Co., 1899. Pp. xvi–247.

Massage Treatment (Thure Brandt) in Diseases of Women. For Practitioners. By Dr. Robert Ziegenspeck, Professor of Gynæcology and Obstetrics at the University of Munich. Authorized Translation by Dr. F. H. Westerschulte, Attending Physician of the Norwegian Lutheran Deaconess's Hospital. With Seventeen Illustrations. Chicago: Published by the Author, 1899. Pp. 3 to 263.

Our Baby: For Mothers and Nurses. By Mrs. Langton Hewer, Late Hospital Ward Sister, etc. Sixth Edition, revised. London: Simpkin, Marshall, Hamilton, Kent, & Co., 1899. Pp. viii–154.

Traité de médecine et de thérapeutique. Publié sous la direction de MM. P. Brouardel, Doyen de la Faculté de médecine de Paris, et A. Gilbert, Professeur agrégé à la Faculté de médecine de Paris. Tome sixième. Maladies du cœur, des artères, de l'aorte, des veines, du système lymphatique et du sang. Par MM. Pierre Merklen, H. Roger, A. Gouget, E. Boinet, F. Widal, F. Bezançon, E. Parmentier. Paris: J.-B. Baillière et fils, 1899. Pp. 1000. [Prix, 12 fr.]

Modern Possibilities in Chronic Catarrhal Deafness. By Sargent F. Snow, M. D., of Syracuse, New York. [Reprinted from the *Laryngoscope.*]

Pelvic Massage. By F. H. Westerschulte, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association.*]

Signs and Tests of Death. By Justin Herold, M. D. [Reprinted from the *New Orleans Medical and Surgical Journal.*]

An Ephemeris of Materia Medica, Pharmacy, Therapeutics, and Collateral Information. On Acetic Acid as a Substitute for Ethyl Alcohol in Extracting the Active Principles of some Officinal Drugs. By Edward R. Squibb, M. D., of Brooklyn. [Reprinted from the *American Journal of Pharmacy.*]

Miscellany.

Cerebellar Tumor or Masturbation?—Richard C. Cabot (*Journal of the American Medical Association,* May 13th; *Medical Age,* June 10th) reports a case of a boy aged fifteen who had had attacks of retraction of the head with some arching of the back, accompanied by headaches, increasing mental dullness, etc. He remained a week in the Massachusetts General Hospital, and the chief symptoms observed were headaches, unexpected vomiting, staggering gait, occasional involuntary passage of urine, retraction of the head, exaggerated reflexes, etc., these observations leading to a provisional diagnosis of cerebellar tumor, probably solitary tubercle. Nearly five years later he walked into the doctor's office the picture of health, when he incidentally remarked: "One thing I ought to have told you folks down to the hospital, but I didn't. I used to abuse myself a lot. After I went out of the hospital I left it off, and just as soon as I did I began to get better. Now I am all right, except I still stagger in the dark and my eyes are not first rate." March 24, 1899, he reported as perfectly well and hard at work.

The query is raised as to whether all the symptoms could possibly have been due to masturbation, or whether a solitary tubercle could have been absorbed or encapsulated.

Idiosyncrasy to Eggs: Poisonous Effects.—The *Medical Age* for June 25th quotes a correspondent to the *British Medical Journal* for March 11th as follows: "A healthy young lady has symptoms of acute poisoning whenever she takes eggs in any form and in the minutest quantity, the severity of the attack being in proportion to the amount taken. Almost immediately she has rigors and vomiting; in a very short time the tongue becomes parched and dry, the throat sore, and there is severe headache and pain in the back. The very smallest quantity of egg, no matter how disguised in any other form of food, will produce symptoms more or less severe. They may continue from a few hours to two days. A tiny particle of the white placed on the skin produces nettle rash." [We have personally known a very similar case.—Ed. *N. Y. M. J.*]

Strawberries and Gout.—The *Lancet* for June 24th cites a writer in *Nature* who speaks of the cruel medical tyranny which banishes the strawberry from the diet of the gouty and quotes what Linnæus had to say about the curative properties of this delightful fruit. This great naturalist was persuaded to take strawberries during a severe attack of sciatica with the result that a sweet sleep ensued, and when he awoke the pain had sensibly subsided. On the next day he ate as many strawberries as possible, and on the following morning the pain was gone and he was able to leave his bed. Gouty pains returned at the same date in the next year, but they were dispersed as soon as Linnæus was able to get strawberries. Although strawberries are forbidden to the gouty by some authorities, by others they are permitted, the fruit being regarded as a useful food for gouty persons on account of its richness in the salts of potash, soda, and lime, and its cooling diuretic and laxative qualities. The analysis of the strawberry shows it to be particularly rich in sodium salts, and in spite of the high percentage of water this fruit excels all other common fruit in the amount of mineral salts. The chemistry of the strawberry therefore would teach that this fruit is likely to be beneficial in gouty states.

Treatment of Ozæna by Citric Acid.—Hamm (*Münchener medicinische Wochenschrift*, No. 15, 1899; *Therapist*, June 15th) states that first of all citric acid, like all fruit juices, acts as a powerful deodorizer, and completely removes the specific ozænic fœtor. Secondly, it possesses marked healing properties. The author obtained a cure in several cases. The mode of employment is as follows: Every morning the nose should be rinsed out and freed from pus and crusts. Then, by means of an insufflator, powdered citric acid is introduced three times a day, mixed with equal parts of sugar of milk. Deodorization can be noticed at once, and lasts for several days, even if the process is not repeated. The secretion is also speedily considerably reduced.

Convincing Evidence of the Value of Vaccination.—From the *British Medical Journal* for July 1st we learn that at a recent meeting of the Peterborough Board of Guardians, Mr. J. H. Howard, in the course of his report of a visit paid by Major T. Davey and himself to the Three Counties Asylum, announced his conversion to a belief in compulsory vaccination. They had, he said, found everything very satisfactory at the asylum—the most modern sanitary methods and appliances, an excellent water supply, and every arrangement calculated to insure the well-being of the patients. Notwithstanding this, small-pox had suddenly appeared, and attacked about forty of the inmates. Mr. Howard, hoping to find some support for his objections to compulsion, had questioned the medical officers on the subject of the outbreak, and was told in reply that in stamping out the disease they had relied simply on revaccination. With the solitary exception of one individual, every patient, every nurse, every doctor, every servant all through the house was revaccinated. The exception was a nurse—a fine healthy young woman—and the exception proved the rule, for she was attacked by small-pox and died of it. Such was Mr. Howard's narrative to the Peterborough Guardians. Similar experiences, says the *Journal*, are common in small-pox epidemics, and he could easily have made himself acquainted with them through the reports of the Royal Commission on Vaccination and other reliable sources; but, after all, there is no schoolmaster like small-pox, and the nearer a man is to such a teacher and to such facts the more likely is he to be impressed by them, so that Mr. Howard's conversion is not at all surprising in the circumstances which he related.

The Mississippi Valley Medical Association.—We learn from the *Medical Bulletin* for July that the annual meeting of this association at Chicago is to take place from October 3d to 6th, and not from September 12th to 15th, as originally fixed.

The Orleans Parish (Louisiana) Medical Society.—At the meeting of July 8th Dr. Isadore Dyer reported a series of cases of linear nævus, and demonstrated the evident relationship with a neurotic origin. Several photographs of various types of this variety of nævus were shown, from the simple pigmented to the highly vascular and verrucose types. Dr. Dyer related three instances of bilateral linear nævus, thus doing away with the proverbial nomenclature usually adopted of nævus unius lateris. He credited Dr. Prince A. Morrow, of New York, with establishing the more appropriate term of linear nævus.

Beer in Tablets.—"There is nothing very surprising," says the *Indian Medical Gazette* for June, "about the statement that in a short time beer will be on sale in the form of tablets. In Germany the beverage has been reduced to a powder by a process of evaporation, and a very small quantity of the powder is needed, with the addition of water and carbonic-acid gas, to make a foaming tankard of ale just as good as if it were freshly drawn from the barrel. As the *Manchester Evening News* suggests, it is just possible that this new departure may ultimately have very important effects on the brewing and bottling trades, inasmuch as it will no longer be necessary to transport barrels and bottles. Solid beer yields another example of the strangeness of truth as compared with fiction. An Arctic explorer used to be fond of telling how, up in the far north, the ship's beer froze and how it was necessary to break it up with crowbars, and then suck the pieces."

The Insanity Problem.—Dr. H. E. Allison, medical superintendent of the Matteawan State Hospital, at Fishkill Landing, N. Y., writes that he has read with interest our recent editorial with this title, and he has been kind enough to send us two pamphlets of his entitled respectively *Provision for the Criminal Insane* and *Insanity and Homicide*, one on *The Criminal Insane in the United States and in Foreign Countries*, by the Hon. Samuel J. Barrows, commissioner for the United States on the International Prison Commission, and the report of a committee of the American Medico-psychological Association on improvement in the medical service of prisons, of which he was a member. Dr. Allison remarks that the State of New York contains the oldest and largest institution for the custody of the criminal insane, and that the Matteawan State Hospital is now largely overcrowded, containing seven hundred and twenty inmates. Provision, he adds, is being made for this overflow by the erection at Dannemora of a special hospital to care for the insane who have been convicted of a felony, thus relieving the hospital at Matteawan and enabling it to provide for the unconvicted criminal cases from the courts and for the dangerous element, whose presence would be detrimental to the welfare of the inmates of an ordinary hospital for the insane.

Dr. Rose's Article on the Term Appendicitis and Other Unscientific Words of our Nomenclature, which appeared in our issue for May 20th, has, we are informed, been published in Greek in Σάλπιγξ, a journal of the Island of Cyprus.

Hospitals as a Hunting Ground for Quacks.—We learn from the *Sun* for July 17th that a well-dressed man with an engaging manner, who left a circular behind him signed P. J. Dervin, 285 Bowery, got into Bellevue Hospital as a visitor on Sunday afternoon, the 16th inst., and began to peddle boxes of ointment which, he said, would cure almost anything if used with prayer. As soon as the hospital officials learned what the man was doing they started to hunt him up, but failed to find him. They found five boxes of his ointment, which looked much like tar, however, and learned that five patients had paid him fifty cents each before he left.

A Patient's Device for Paralytic Incontinence of Urine.—The *Edinburgh Medical Journal* for July, quoting the *Annals of Surgery* for May, states that Dr. Otto Kiliani recently related to the Surgical Society of New York the case of a patient who at the age of twenty-nine years sustained an injury to the spine, attended with complete paralysis of the lower extremities, the rectum, and bladder. The legs improved sufficiently for him to walk about; he regained control of the rectum, but suffered greatly from incontinence of urine. He wore a portable rubber urinal for ten years. As this proved unsatisfactory, he discarded it in favor of an ordinary carpenter's screw nail (an inch and a half in length), which he screwed into the orifice of the prepuce, the latter being quite insensitive. He came under the author's observation for perforating ulcer of the foot after he had used the screw for six years. The margin of the prepuce was hard, thick, and almost cartilaginous, without the slightest evidence of ulceration. The orifice had contracted to a small opening, which, throughout its entire length (three quarters of an inch), bears a thread corresponding exactly to the thread of the screw, so that it only admits the latter when properly started. The sac of the prepuce has become dilated, so that it has a capacity of two hundred cubic centimetres, and the screw fits so exactly that it keeps the patient dry up to the pressure of this amount of urine, the prepuce, therefore, acting as a urinal or a secondary bladder. Dr. Kiliani had an ivory screw made to replace the steel one; the latter was exhibited to the members of the society.

By Another Mother.—The *Medical Bulletin* for July credits the following story to the *Southern California Practitioner:*

"Dr. H. G. Brainerd and Dr. J. H. Davisson composed an insane commission recently before Judge York. The man before the court claimed in the early part of the examination that he was Napoleon Bonaparte, but later in the examination he asserted that he was the Duke of Wellington.

"'Ah,' said one of the examiners, 'how does it happen, a few minutes ago you said you were Napoleon and now you say you are Wellington?'

"'Oh,' said the insane man cheerfully, 'that was by another mother.'"

The Essential Qualities of the Nurse versus High-flown Language.—Dr. George M. Gould (*Bulletin of Johns Hopkins Hospital* for June), in an address to the graduating class of the Johns Hopkins School for Nurses, says: "'Servants of the poor' is another term used by orators to graduating nurses and by writers of mock heroics. It is quite highfalutin—and quite silly! I trust you will not go to your lifework a victim of any phrase-maker's tricks. Your first duty, like that of all of us, is to see facts; your second, is to know facts; your third, is to make facts. If you must dub yourself with any other titles and think of yourself as anything less or more than a nurse—quite a noble and ennobling name, I think—is not the word *friend* enough? A servant you must not be, a patronized or a patronizer you dare not be. Friendship is what is needed by the patient and by his family. The friend may teach and help, not serve or patronize; he must always sympathize with and love."

Yellow Fever at Santiago.—Yellow fever is said to be very widely prevalent at Santiago. Among its victims was Major Clendennin, assistant surgeon in the United States army, whose daughter has recently recovered from the disease under treatment by Dr. Doty's serum.

Ill-assorted Marriages of Hermaphrodites.—Neugebauer (*Centralblatt für Gynäkologie*, May 6th; *Medical News*, July 15th) has collected reports of no less than fifty cases in which divorce has been granted on account of an error in the sex of one of the contracting parties. It seems incredible that such a mistake should occur so often, but the conformation of the genitals of some of these hermaphrodites was such as to deceive medical men who could not in some instances agree upon the sex of the individual, even after an examination. One remarkable case is recorded in which a male hermaphrodite had successively three husbands, and it was only after she, or rather he, had given a venereal disease to the third husband that the latter applied for a divorce. In forty-six out of the fifty recorded cases a man had married a male hermaphrodite. In one case the sex of the parties is not given, and in three instances women married female hermaphrodites. In one of these instances the supposed husband later became pregnant, and was delivered of a full-term child. There are numerous instances in which a matrimonial engagement has been broken on account of the discovery that the parties to the agreement were of the same sex.

Original Communications.

CEREBRAL ABSCESS
IN A CHILD THREE MONTHS OLD,

COMPLICATED BY ERYSIPELAS OF THE HEAD AND FACE.

OPERATION. RECOVERY.

CURSORY CONSIDERATION OF THE DIAGNOSTIC VALUE OF SYMPTOMS.

By WILLIAM J. DOYLE, M. D.,
PHILADELPHIA.

MARY P., three months old, first seen in office April 25, 1899. Mother said she had been cross and irritable for a day or two—stopped nursing to cry. Appeared to have pain in abdomen; movements greenish and frequent; much gas passed by the bowel. Child appeared bright, was well nourished, and had never been ill. Temperature, 99° F.; abdomen large and tense; pupils normal. Ordered a dose of castor oil and instructed the mother to return if the child did not improve.

April 27, 1899.—Mother reported child unimproved. Oil not retained, slight vomiting, child very restless, got no sleep during the previous night, and but little during the day.

28th.—Was asked to call and see the child in haste, as the mother had discovered a large swelling on top of the child's head during the night. Found the child very cross, apparently suffering great pain; bowels had moved quite freely, but the movements were still green; pupils contracted; skin hot and dry. Temperature, 104.5° F. At the anterior fontanelle there was a pronounced swelling extending half an inch beyond its borders and elevated somewhat above the surrounding tissues. This elevation fluctuated slightly but distinctly upon pressure and was of an erythematous cast. Aside from the decided fluctuation there was absolutely nothing to direct attention to the probability of abscess. I am perfectly familiar with the child, having been present at its birth. It has never been sick; has no ear trouble or any remote probable cause, and no syphilitic taint; is plump and hearty in all respects, and has never got anything but breast milk. Ordered two grains of acetanilide to reduce the temperature. Invited Dr. H. B. Nightingale to see the case, who, after an examination within the next three hours, fully concurred in my view, and we decided to operate at once.

Mary P., aged three months, abscess of brain: operation. Recovery.

An incision an inch in length was made in the scalp, extending antero-posteriorly and about a quarter of an inch to the right of the median line. The scalp was quite firm and thickened. Upon puncturing the dura it also was tough and resisting; cutting forward for about half an inch, all was well. Still cutting guardedly, I was surprised to find I had penetrated the longitudinal sinus, as announced by a profuse flow of venous blood. This hæmorrhage was so profuse and persistent that the wound had to be packed to check it and the operation postponed. The dressing was removed forty-eight hours later. Hæmorrhage had apparently ceased almost immediately; no pus, neither had any appeared the day previous. Wound lightly packed with gauze. Child had rested comparatively well during the night. Temperature, 101° F. No vomiting; bowels open but movements still green.

On the following day, upon removing the packing, it was found saturated with a greenish, foul discharge which welled up from the bottom of the wound—in all, about three fluid drachms or half a fluid ounce. Wound washed with solution of bichloride of mercury (1 to 5,000). Repacked lightly in expectation of its sufficiently draining without further interference. The temperature had fallen to 99° F. Next day there was practically no discharge, nor has there been any since, and the child is making an uneventful recovery.

Now, as to erysipelas. It developed distinctly, but not markedly, both on the head and on the face, following the usual course of mild attacks, and the child today is practically well. What was the cause of this deposit, and where was it located?

Cerebral abscess is a focal suppurative process affecting either the white or gray matter, or both. It may be single or offer numerous points of suppuration.

The symptoms may be acute, developing within a few hours, or, coming on insidiously, may consume weeks or even months before becoming of diagnostic value.

Clinically, the symptoms of cerebral abscess may be divided into general and local: general symptoms pointing to pressure or irritation, while local symptoms indicate perversion of function, being modified by the seat of the abscess.

The commonest general symptoms are, perhaps, headache, lassitude, disturbance of sleep, perversion of intelligence, vertigo, convulsions, and optic neuritis; while the temperature is either normal or but slightly elevated, and may even be subnormal.

With an abrupt rise of temperature, the case presents a picture decidedly suggestive of an active meningitis, and it is exceedingly difficult to make a distinction at this stage, especially if general convulsive seizures are added.

In cases developing gradually, the symptoms are generally less pronounced; headache may be but slightly marked and not persistent, vertigo and vomiting may be entirely absent or occur at intervals only. Instead of coma and somnolence there may be simple apathy, mental confusion, and irritability. After a shorter or longer time, however, the disease is sure to assert itself, and evidence of specific disturbance will be observed, by which the location of the abscess will be determined.

The location of an abscess of the brain is largely determined by its cause. When due to extension from disease of the ear, it will be found generally in the temporo-sphenoidal lobes, the cerebellum, or the region of the pons. If the pus is the result of a phlebitis of the lateral sinus, the abscess will in all probability be found in the cerebellum. If it enters through the superior petrosal sinus, the abscess will be found in the cerebrum, and in all likelihood in the temporal lobe. When caused by external violence, the deposit usually bears some relation to the site of injury, but not invariably, as shown by abscess of the occipital lobe caused by injury to the frontal region. When due to necrosis or disease of the facial bones, the abscess is frequently located in the frontal lobes or at the base. When due to syphilis or tuberculosis, its site is usually the motor convexity, base, or cerebellum. Pyæmia is prone to induce multiple abscess, generally in the regions about the distributions of the middle cerebral artery.

The principles of localization of uncomplicated abscess situated in an active region apply with marked constancy, the circle of symptoms indicating quite regularly the point of pressure. However, cases have been reported where the abscess was only discovered after death, there being absolutely no indications during life of any brain disease.

Ordinarily, in patients suffering from cerebral abscess, it is quite evident that some brain affection exists, but it is not by any means an easy matter to decide from the symptoms that abscess is the trouble. Tumor, meningitis, and sinus phlebitis are apt to present claims for consideration, and these claims are the more important inasmuch as the same causes obtain in the production of meningitis and of sinus phlebitis; neither is the temperature always a reliable guide, for, while usually above normal and sometimes quite high in meningitis and phlebitis, it may also follow the same lines in abscess, though as a rule it is nearly normal, but may be quite irregular. In meningitis the onset is most marked; excitement and delirium are conspicuous features; intolerance of light, a tendency to general convulsions, and a general hyperæsthetic condition develops. It is only in meningitis of the base that pronounced focal symptoms appear, and then are dependent upon the number and extent of implications of special nerves. If the inflammatory process is thus localized it is almost impossible to distinguish between it and abscess.

Abscess of the brain is invariably dependent upon the introduction of micro-organisms from near-by or remote sources, and occurs at all ages, most frequently during adolescence or early adult life. It is exceedingly rare in infancy and old age, while its most frequent cause is extension from middle-ear disease, and from chronic rather than from acute troubles, the next most common cause being traumatic injuries of skull and face. In infants, practically all reported cases have been due to the latter causes. Pus accumulations, however remote, may be a means of brain infection through the circulation.

The development of such abscess is steadily progressive, except when, as at times occurs, it is encapsulated, when it may remain for quite a long time quiescent; however, there is the ever present danger of rupture, such rupture simulating apoplectoid symptoms, resulting generally in death.

Unless treated surgically, abscess of the brain is almost inevitably fatal. Its duration is variable, acute cases generally ending within a week or ten days. The encapsulated form may extend over years, the patient eventually dying from exhaustion, or quite unexpectedly from rupture of the encapsulating membrane.

The method of treatment can only be by surgical procedures, and in no department of medicine have the results accomplished been more brilliant or promising than in the surgical treatment of brain abscesses. The surgeon should not wait for coma or grave symptoms, but should open the cranial cavity as soon as the symptoms point to the formation of abscess.

1527 Ritner Street.

MODERN THERAPY OF THE TYMPANIC CAVITY.*

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In the progress of otology, like that of other special departments in medicine, there is a tendency to "faddism" which has been especially marked during the past few years. A review of recent literature and a glance at the titles of papers read at otological meetings, both at home and abroad, indicates a steady increase in the consideration of the mastoid operation in its varied forms, and of the radical operative procedures for the relief of chronic suppurative conditions of the tympanic cavity. Mastoid and intratympanic work have become almost as prevalent in otology as an operation for appendicitis and the removal of the offending member in abdominal surgery.

It is true that in a series of well-selected cases mastoidotomy and ossiculectomy often afford brilliant results. With the operative fever tingling in his fingers, however, the otologist is inclined to overstep the mark from time to time, and institute radical measures where a more conservative treatment may be indicated, and the results obtained be equally satisfactory.

I would leave out of consideration that large series of cases of acute middle-ear complications where bacteriological inroads are rapid, and where the indications for radical measures are definitely pointed out. It is to that large class of cases of chronic suppurative conditions of the tympanic cavity where the constant presence of purulent secretions threatens the destruction of the soft tissues of the tympanum, where ossicular necrosis is imminent, and where an extension of the inflammatory products to the accessory spaces of this cavity is possible. It is here that the radical otologist, with his often too active interference, frequently promotes unfavorable results.

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* Read at the fourth annual meeting of the Western Ophthalmological and Oto-laryngological Association, New Orleans, February 10, 1899.

A question which has often been of considerable bacteriological interest to me is the fact that micro-organisms can be harbored within the confines of the middle-ear cavity for so long a time without giving rise to a further extension of the inflammatory process. It is of almost daily occurrence in the work of the otologist to come in contact with suppurations of the middle ear which have existed for months and years without much indication of tissue destruction and without causing the patient any inconvenience beyond that of discharge. This fact should appeal to us as one of much clinical value. Here is a cavity lined with mucous membrane which, microscopically, is almost identical in structure with that of the Eustachian tube and its nasopharyngeal orifice. Not only does this continuity of tissue extend from the nasopharynx to the tympanic cavity, but the attic, the antrum, and the mastoid cells are similarly lined with mucous membrane. Considered from a bacteriological standpoint, we know that micro-organisms find an especially favorable habitat on mucous membrane, and that this suitable culture medium, supplemented by the moist serous surface of the mucous membrane and a fairly uniform temperature, offers the best possible opportunity for the rapid spread from an infected focus.

We know furthermore that over seventy per cent. of the suppurative affections of the tympanic cavity are due to an extension and infection from the nasopharynx *via* the Eustachian tube. Through this section of the mucous tract an extension to the tympanic cavity is rapid; conversely, in the chronic forms of suppurative infection of the middle ear an extension to the more vital areas of the attic, antrum, and mastoid is slow. It would be interesting to determine the reason for this decided difference in the tendency of micro-organisms to spread; on the one hand, the rapid spread from the nasopharynx *via* the Eustachian tube to the tympanic cavity; on the other, the slow progress from the tympanic cavity *via* the attic and antrum to the mastoid cells.

Supported by these bacteriological and clinical facts I maintain that more conservative procedures are conducive to the best interests of the patient, are more rational, and offer fewer possibilities as to unfavorable results.

I do not assume that even the most radical enthusiast will undertake operative measures for the relief of chronic suppurative otitis media until he has given a fair trial to milder measures. It is to the application of these therapeutic measures that I desire to direct your attention.

In a brief paper recently published * I attempted to compare the two systems of treatment which have in recent years been given every practical test—one, the so-called "dry treatment," the other, the irrigation and syringing with various antiseptic solutions. In summing up the advantages and disadvantages which either of these methods might afford, I have considered the pathological status of the affected area, the character of the discharge, and the size of the perforation as factors.

From a close comparison of these two methods I believe that frequent use of the syringe and lavage of the auditory canal are distinctly contraindicated in suppurative cases where large perforations of the membrana tympani exist, and where a free entrance of the fluid into the tympanic cavity is so easily effected. In the first place the mucous membrane of the tympanic cavity, bathed in purulent secretions, affords an excellent supply of infectious material, which the force of the current from the syringe or douche may wash into the remote and healthy areas of this cavity, and may thus mechanically produce an infection of the attic or antrum where none had previously existed. I think I can substantiate the assumption that many of the cases requiring mastoid interference or ossiculectomy have been unconsciously produced by the too liberal use of the syringe in the cleansing of the tympanic cavity.

Otological literature contains frequent references and admonitions as to the indiscriminate use of the nasal douche, especially when handled by the patient himself, and points to a subsequent infection of the tympanic cavity as the result of this procedure. If this is so frequently possible by the carrying of the fluid through the entire tract of the Eustachian tube, how much more readily can a similar result ensue when the syringe is brought directly into contact with the tympanic cavity through a large perforation of the membrana tympani.

The second factor contraindicating the use of aqueous fluids in these conditions is the pathological status of the tympanic cavity itself. The mucous membrane of the tympanic cavity during a suppurative otitis is constantly bathed by purulent secretions, resulting in a sodden, boggy surface, and this is accentuated by the addition of aqueous fluids. It is this very stimulation and irritation of the mucous membrane by the fluids with which it is brought into contact that causes granulation and polypus formation. It should be our object to extract fluid from this area and not to add to the already existing serous or purulent infiltration.

Where the discharge is viscid, tenacious, and copious the application of the syringe with a gentle current of a mild, warm antiseptic fluid may be advocated to clear the auditory canal to the surface of the membrana tympani. Beyond this point, however, it is my opinion that the syringe should not be used in suppurating conditions of the tympanic cavity.

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* *Laryngoscope*, December, 1898.

Clearing the auditory canal of these copious discharges may be just as readily accomplished by the use of strong solutions of peroxide of hydrogen, such as hydrozone or the full-strength H_2O_2 of the Oakland Chemical Company. This obviates the necessity of the syringe and the considerable pressure of the current of the fluid which is often necessary to dislodge these ropy purulent shreds.

I am also opposed to the use of the middle-ear syringe in any affections of the tympanum other than in mild cholesteatoma. Here we deal with a moderately dry cavity, and an alkaline antiseptic solution used with a middle-ear syringe is frequently effective in detaching these epithelial masses.

The technics in surgery which has found general favor of late is the "dry dressing." Its advocates and enthusiasts claim for it a more rapid healing, a more natural covering, less irritation of the injured surface, and less danger from infection of the surrounding areas. The "wet treatment" always produces an infiltrated surface, and as this in the ear is generally applied to the mucous membrane, it unintentionally aggravates that condition of "bogginess" which it is our purpose to subdue.

For clearing the auditory canal of pus or muco-purulent discharges, I have found a small tuft of sterilized cotton wound about the end of a probe or cotton carrier, frequently renewed, and gently applied as a mop, a more effective cleansing agent than a large current of antiseptic fluid.

If but a small perforation exists and the cotton tuft can not find its way through this perforation into the tympanic cavity, there is always a possibility of retention of the purulent matter and a tendency to prolonged suppuration. In suppurative otitis media of a chronic character, where no pain or discomfort exists, I employ the Eustachian catheter in connection with a nebulizing or vaporizing apparatus, thus accomplishing the threefold result of inflating the middle-ear cavity, of clearing the tympanum of pus and forcing it by a medicated compressed-air current through the perforation, and of medicating the middle-ear cavity more effectually and with less unfavorable possibilities than by the use of an aqueous fluid. My nebulized fluid consists of iodine, three grains; carbolic acid, four grains; and benzoinol or albolene, one ounce. This I use in conjunction with a Globe hand nebulizer, the supply tube of which is fitted with a special tip, which in turn is snugly adjusted to the proximal end of the Eustachian catheter. In this way my medicated vapor is insured a thorough penetration of the tympanic cavity, and the inflation may be continued *ad libitum*. The simplest index for determining the volume of vapor which reaches the middle-ear cavity in this manner is to watch the vapor as it passes out of the auditory canal. I have frequently succeeded by this steady inflation, continued for five minutes at a time, in forcing the residue of the purulent matter through small perforations of the membrana tympani in a single sitting, and long-standing cases of suppurative otitis media have yielded to this treatment where all other methods have failed.

An antiseptic powder, lightly insufflated, completes this treatment. Boric acid, which has for so many years been the sheet anchor of otologists in the treatment of suppurative conditions of the middle ear, is hardly of sufficient antiseptic strength to meet all of the demands of modern surgery; iodoform is objectionable, first, because its germicidal action is often questionable; second, because of its disagreeable odor; my preference has been for nosophen, as it meets the majority of the requirements of an ideal powder dressing in the ear, being more potent than boric acid in its antiseptic qualities, odorless, and less irritating than iodoform and with no tendency to clog.

Where the discharge is profuse I add to this treatment a gauze packing, selecting narrow strips of plain sterilized gauze in preference to that of iodoform, as previously advocated.

I would also take this occasion to state that I have now in preparation a paper and report of experimental work on the antiseptic value of certain nebulized fluids on the various micro-organisms found in the middle-ear cavity, and I offer the preliminary statement that vaporized oily antiseptics when brought into contact with pure cultures of streptococci and staphylococci afford surprising germicidal results.

It is my further opinion that in the evolution of medications employed in the treatment of the mucous membrane of the upper respiratory tract and of the ear, oil sprays in their various combinations will soon gain the upper hand.

For some time past I have been using medicated liquid petroleums in the treatment of chronic non-suppurative middle-ear catarrh of the hypertrophic form, and have even found this therapy of advantage in mild sclerotic otitis media.

The applications to the tympanic cavity are made as follows: A short, hard-rubber Eustachian catheter is introduced in the usual manner and snugly fitted into the nasopharyngeal orifice of the Eustachian tube. I emphasize the necessity of this snug fitting to avoid any leakage at the tip of the catheter when the fluid is forced into the tympanic cavity. For this purpose I use a glass-barrel syringe, two inches in length and half an inch in diameter, supplied with a cone-shaped tip by which an air-tight joint is made with the end of the catheter. The syringe is loaded with the above-mentioned solution of iodine, carbolic acid, and benzoinol or liquid albolene. When the catheter and syringe are properly adjusted the patient's head is tilted well backward and inclined toward the ear to be medicated. This position has been found the most favorable one for the introduction of the solution. The piston is now pressed home slowly, and in the majority of cases, after six or eight drops have been delivered, the patient will state that he feels an unusual fullness in the ear. The syringe is then detached and the cone-shaped tip of the compressed-air apparatus applied; a few short taps, and then a steady pressure continued for eight or ten seconds is given. This insures the penetration of the tympanic cavity by the fluid. I have convinced myself on numerous occasions of the penetrability of this fluid by applying it not only in chronic catarrhal conditions of the middle ear where the membrana tympani was intact, but also in the treatment of middle-ear cavities, suppurative or non-suppurative, where perforations of the drum membrane existed; where such perforations are present this dark-colored oily fluid may be found on examination exuding into the auditory canal.

It is understood, of course, that the auscultation tube is employed in these inflations: in the first place to determine the patency of the Eustachian tube; in the second place to recognize the bubbling sound which is made by the injected fluid as it enters the tympanic cavity.

The patency of the Eustachian tube is also a question which has not been neglected in this therapy and has offered no hindrance to this intratympanic medication. Where the examination of the patient has determined the fact that the Eustachian tube offers obstruction to the free passage of air or fluids, or where irregularities in the nasal passages occur to prevent satisfactory catheterization, I have made use of the following technics, which may be considered radical, but not quite so extreme as an excision of portions of the membrana tympani or ossiculectomy:

This consists of intratympanic injections made by puncture of the membrana tympani under aseptic precautions and the introduction of the same formula as used through the Eustachian tube. For this purpose I have had an extra large and long hypodermic needle constructed and fitted to an ordinary hypodermic syringe. The shaft of the needle is bent at an angle of thirty degrees, is two inches and a half in length, so that it may easily reach the drum membrane. The end with which the puncture is made is supplied with a small flange an eighth of an inch from the point. This precaution has been adopted to prevent the needle from penetrating the tympanic cavity too far, or the possibility of injury to the delicate tissues by undue movement of the head of the patient. Partial cocaine anæsthesia is effected by the retention of a cotton plug saturated with a hot ten-per-cent. solution of cocaine. Three or four drops of the carbol-iodine solution are injected into the tympanic cavity. The reaction is slight, and the injection may be repeated in a week or ten days.

I have placed special faith in this method of treatment in its several forms, because the actual results have been better in my experience than those of the many various treatments that have been thus far tried.

Anatomically and pathologically we deal here with aural conditions analogous to those of the nose: hypertrophic rhinitis is to the nose what hypertrophic otitis is to the ear; atrophic rhinitis and ozæna are to the nose what sclerotic otitis is to the ear. It is logical to conclude, therefore, that the system of treatment which yields favorable results in these pathological affections of the nose should be equally applicable to similar affections in the ear. The greatest difficulty to overcome is that of properly reaching the affected cavity, and this I think can be most effectively accomplished by the simple procedures here described.

I have made another departure from old beaten paths in middle-ear therapy. The saturated alcoholic solution of boric acid has been an old and trusty friend for the reduction of mild granulations in the middle-ear cavity resulting from the irritation of suppurative exudates. The dehydrating properties of alcohol and the antiseptic value of boric acid have been combined in an effective solution for the reduction of such tissue. In order to get the full dehydrating effect, absolute alcohol should be employed in this solution. It may not have occurred to you, however, that this solution brought into contact with such delicate sensitive tissue causes excruciating pain to the patient. I have found a satisfactory substitute in picric acid; this is of value both as a desiccator and as an antiseptic; it can be used with weak alcoholic solutions and thus avoid the intense pain caused the patient. It may be also used in combination with glycerin, whose dehydrating properties are almost equal to those of alcohol.

In the scope of this paper I also desire to offer a brief report on another form of treatment which has been suggested in chronic non-suppurative middle-ear affections. I refer to ferments employed to dissolve fibrinoplastic deposits and fibrous adhesions in the middle-ear cavity. This therapy was first described in detail by Cohen-Kysper, of Hamburg (*Archives of Otology*, vol. xxii, No. 2). The author employed pepsin of the dog and injected the sterilized solution under antiseptic precautions (intratympanic) by perforating the membrana tympani with a large-sized hypodermic needle. I corresponded with the author for some time, but was unsuccessful in obtaining some of this specially prepared ferment for trial. As I was anxious to test the possibilities of this treatment I placed the matter of the preparation of such a ferment with Fairchild Brothers & Foster, whose long experience with pepsin products suggested a similar preparation. Through the courtesy of this firm, and with the assistance of their chemist, I obtained a supply of pepsin solution to which I have devoted some time and attention during the past six months, following the method advocated by Cohen-Kysper. The results obtained in a series of some twenty cases, especially selected for this purpose, did not encourage me in continuing these clinical tests. It is possible that stronger pepsin solutions, with some variations in their preparation, may yield better results.

Closely associated with the direct medication of the tympanic cavity is the therapy employed for the relief of tinnitus aurium. Early in 1898 Robin and Mendel published the results of their various successful efforts with cimicifuga racemosa in the treatment of tinnitus aurium. During the past three months I have used this preparation liberally, and fail to understand why my results did not correspond with the favorable report of the authors. I have used the fluid extract of cimicifuga in graded doses ranging from ten to thirty drops. Exhibition of this drug certainly raises arterial tension, and subsequent vertigo, headache, nausea; and a feeling of fullness was complained of almost universally by my patients. A rough estimate of the results obtained by the use of cimicifuga in my experience would indicate that about five per cent. of the patients so treated were benefited. In nearly all the patients to whom cimicifuga was administered the tinnitus aurium was of recent occurrence. It is possible that much of the success of this drug depends on the use of a fresh and pure preparation and special care observed in its administration.

In presenting this series of therapeutic considerations I have not given the literature of the subject much detailed attention, and have simply expressed views that have occurred to me from time to time in my own work. Perhaps little of the information which may be gleaned from this paper is new. I may have been anticipated in the recording of these suggestions. The results of the plan of treatment above outlined have proved so satisfactory, however, that I have been prompted to present and to urge the necessity of giving such measures a fair and careful trial in the chronic cases to which they are adapted before resorting to more radical operative procedures.

3702 OLIVE STREET.

ANÆSTHESIA:
NITROUS OXIDE; ETHER; CHLOROFORM.*

By S. ORMOND GOLDAN, M. D.

PRELIMINARY REMARKS.—I think all will agree that it is only by the extended observation of the practical administration of anæsthetics that one is enabled to acquire or lay claim to any special skill in their administration. Dangerous symptoms arising during narcosis are more frequently the results of the improper methods employed and of inexperience than of the anæsthetic, which is usually credited with them. Properly administered, the instances in which dangerous symptoms occur will be exceedingly rare; occasionally, however, even when taking every precaution, emergencies will arise necessitating immediate and appropriate treatment. Certain symptoms occur during the induction of anæsthesia which to the casual observer might call for attention; the experienced administrator recognizes these symptoms simply as the expression of the effects of the anæsthetic upon the system, and carries the patient safely on to complete anæsthesia; other symptoms, again, seem of small importance, whereas, in reality, their early recognition and removal will prevent dangerous symptoms and often collapse.

From the present state of knowledge we are unable to foretell in any individual case when dangerous symptoms will arise. It is for this reason that every patient who is anæsthetized is entitled to and should receive at the hands of the anæsthetist the benefit of every detail, as much so as does the operation itself at the hands of the surgeon. If every one who administered an anæsthetic realized that in doing so there was always an element of danger, and that to him alone belonged the responsibility for the life of the patient, he would not fail to provide himself with every possible means for the recognition and treatment of the symptoms which, if neglected, might be the cause of the patient's death.

To those who think anæsthesia of little importance, and consider attention to details superfluous, it may be said that sooner or later they will certainly come to grief.

It is well known that patients frequently dread the anæsthetic more than the operation, and this, I have conclusively proved, is more often due to the way the anæsthesia has been conducted than to the particular anæsthetic used. I can repeat, as I have elsewhere stated, that an ideal anæsthesia should not only have for its object immunity from death, but should be so conducted that the patient's return to consciousness should not to the slightest degree be marked by the knowledge of having undergone narcosis. This can not be perfectly accomplished with the anæsthetics now in use; but this desire is attainable more than is usually supposed in the majority of cases which I have demonstrated in patients who had at previous periods in their history been anæsthetized with crude methods, though the anæsthetic had been the same.

If, then, I am construed as giving unnecessary attention to details, I hope my plea for the importance of the subject will be accepted for so doing.

The essentials for a proper narcosis are:

1. One who does not look lightly upon the subject, for the anæsthesia is, in point of importance, second only to the operation itself.

2. A thorough knowledge of the effects of anæsthetics upon the human economy.

3. The recognition of untoward symptoms, which, if rightly interpreted and treated, will often prevent dangerous ones ensuing.

4. A thoroughly equipped armamentarium; this consists of the anæsthetic apparatus and every instrument and stimulant one is likely to use in any possible emergency.

The narcosis can be conveniently divided as follows:

1. The preliminary preparation of the patient.

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* Read before the Medical Society of the County of New York, February, 1898.

2. The induction of the anæsthesia and its maintenance.
3. The subsequent treatment of the patient who has been anæsthetized.

ANÆSTHESIA HISTORY.

No. *Date* *Age* *Sex*
Name
General condition *Type of patient*
Previous narcoses *Temperament*
Respiratory system *Temperature*
Circulatory system
Urine analysis

Anæsthetics used
Administration begun at *ended at*
Narcosis induced with *in* *minutes.*
Narcosis maintained with
Operation *begun* *ended.* *Operator, Dr.*
Eyelids *Pupil* *Skin*
Pulse *Respiration*
Stimulants used
Untoward symptoms during narcosis, and treatment

Consciousness regained
Vomited *Nausea*
Observations:

A complete history should be a part of every well-conducted narcosis. This is best arranged in a printed form in three parts: The patient's history; the narcosis; and post-anæsthetic observations. The reverse of the sheet is used for detailed notes of the anæsthesia, which will be found of great interest. Where the anæsthetist has no such blank, he should keep complete notes throughout the narcosis. The value of such a history is obvious. Hardly more than the mention of the anæsthetic used is ever noted in the majority of hospitals; the method employed and quantity of anæsthetic used are rarely if every stated. It often becomes necessary to anæsthetize the same patient twice or oftener. Here a history of the previous narcosis would be of great value. If any untoward symptoms occurred, the anæsthetic or method might be changed. We can by such a history in a systematic way note the effects of different anæsthetics and quantities used upon kidney, heart, and lung lesions in particular types of patients—those who require stimulants, etc. A glance at the history sheet will show its value. In private cases the anæsthetist rarely sees the patient before the time set for the operation; in this case he should ascertain and note what preparation the patient has had; the particular drugs used; whether the patient has had a physical examination, and whether he ever has been anæsthetized before. Inquiry should be made as to whether he has ever had acute cardiac or pulmonary disease; whether he has been addicted to the use of alcohol, morphine, cocaine, or any other drug habit. It is known that certain diseases leave their permanent impress upon the system, and in each individual case the anæsthetic can be so modified that untoward symptoms will not occur as the result of an early lesion. A general survey of the patient should be taken; his size, probable weight, temperament, color, and condition of the skin and mucous membranes observed; the state of the pupils; the temperature and pulse noted, and a thorough examination of the lungs, heart, and arteries made, for upon this examination often depends the selection of the anæsthetic. As to the kidneys, the urine should, of course, always be examined. The examination usually consists of the chemical test for albumin, and, if the so-called trace is found, it should not be taken as an indication for the selection of chloroform in preference to ether as the anæsthetic to be used. Whenever albumin appears, a microscopical examination should be made. It is well known that albumin may appear in the urine without any actual disease of the kidneys, and—directly the reverse—grave kidney lesions be present without albumin.

I do not believe the presence of albumin contraindicates ether, if it is *properly* given, and, everything considered, it is, in fact, in these cases as safe as chloroform. It is always wise in patients in whom albumin has been found before narcosis to examine the urine a few times after the anæsthesia. My practice is to make such an examination upon the first and second days following narcosis, and once after two, three, or four weeks, according to the nature of the operation. It is also of interest to examine the urine after protracted narcoses, even in those cases in which albumin has not appeared.

While various drugs may be used for catharsis, in my estimation a mercurial purge is the preferable one as a precedent to anæsthesia, and for this purpose the mild mercuric chloride may be employed, either in repeated small doses or in one large dose, always being succeeded by a saline, preferably the magnesium sulphate. Where calomel is used, it should be given at least two days before operation, and in some cases four days, for the reason that calomel is nauseating to some patients, and it is desirable to have this entirely cease before the day set for the operation. A mild saline aperient, however, may subsequently be administered the day preceding the anæsthesia. It is well known that calomel increases the flow of bile, and so counteracts intestinal fermentation; this, with a saline, will leave the intestinal canal in as good condition, both for anæsthesia and operation, as it is possible to do. This treatment will also greatly lessen the subsequent nausea and vomiting following the narcosis. It is desirable to have the patient in as good a physical condition as possible. If stimulation is necessary, appropriate doses of the drugs desired (preferably strychnine or the tincture of nux vomica) should be administered days or weeks before the anæsthesia occurs, and not postponed until dangerous symptoms occur, and large doses of stimulants have to be relied upon to counteract their deleterious effects. All patients should be encouraged to drink an extra supply of water—a glassful at stated intervals during the day; or once daily the colonic saline enema may be given, preferably at midday, in the Sims or dorsal position, in which the patient should remain a short time, so that it may be retained. The quantity should be about two quarts. This is particularly valuable in septic cases; in those suffering from shock, in whom a long narcosis is probable, it maintains the vasomotor tone, and also conduces to increased cardiac and respiratory activity; it causes a free secretion of urine, and consequently a rapid elimination of the anæsthetic. In this way we infuse the patient before operation, and often avoid the necessity for so doing during or following it. The food of a patient who is to be anæsthetized should be of the most sustaining—a liberal mixed diet up to the very day of the narcosis. The custom of giving liquid diet for days before operation, unless specially indicated, is not, in my judgment, good; but on the day of the operation only concentrated broths should be permitted, and no food whatever for at least five hours preceding anæsthesia. Gastric lavage should be employed in emergency cases, and a knowledge of how to quickly and properly introduce a stomach tube is essential. From eight to twelve ounces of water should be introduced at a time, and repeated until the water returns perfectly clear.

Narcotics, such as morphine and whisky, should, as a rule, *not* be given *before* anæsthesia; they are unnecessary, and in reality dangerous. It is interesting to note that those who advocate the practice are not in the habit of producing anæsthesia without the so-called prophylactics. The usual procedure is to give from a fourth to half a grain of morphine and from one seventy-fifth to one one-hundred-and-fiftieth of a grain of atropine, and sometimes, in addition, whisky in variable quantities. Whether the patient has ever had these narcotics before or has been addicted to their use is rarely inquired into; the consideration as to whether he is abnormally susceptible to the drugs in these particular instances seems to be forgotten.

The advantages alleged for the use of morphine are that less of the anæsthetic is required during the anæsthesia; the patient is anæsthetized more rapidly; excitement is greatly lessened, and it is a cardiac and respiratory stimulant. From very extended observations I am able to say that morphine does not in any way diminish the quantity of the anæsthetic used to induce and maintain anæsthesia, nor can anæsthesia with either ether or chloroform be induced more rapidly with morphine than without its use; if properly administered, the amount of the anæsthetic used and the time to induce the narcosis will in each case be less without morphine than with it—instead of lessening excitement it often increases it. As for its being a cardiac and respiratory stimulant, there is in strychnine a much better stimulant for this purpose; but morphine is a direct respiratory depressant, and accidents referable to respiration have occasionally occurred which could very properly be attributed to its use. It also interferes with the motility of the iris, and this function during anæsthesia should never be impaired. It is true that morphine deepens narcosis, and for that reason should not be used. How the degree of anæsthesia can be determined with any certainty when morphine has been used I can not understand. I have further observed that patients who have had morphine before anæsthesia have more nausea and vomiting than those who have not had it. Morphine, however, is valuable after the operation and when the patient has regained consciousness. We thus avoid the opium narcosis being superimposed upon that of the anæsthetic. Here, from the nature of the operation, and if the operators desire it, it may be given preferably in quarter-grain doses with an appropriate dose of atropine; it should not be given in frequent small doses. Whisky should be avoided, as it increases excitement and deepens narcosis at the same time; an empty stomach conduces to a good and rapid anæsthesia.

Strychnine is certainly a superb stimulant, and there is really no theoretical or practical objection to its use; however, the custom of certain English anæsthetists of using as much as a third to half a grain is unnecessary and not devoid of danger; and it is far more rational, it seems to me, to give the drug, when necessary, at the beginning of the narcosis in a thirtieth- to a twentieth-grain doses and at intervals repeat it during the anæsthesia. In this way we have a gradual and constant stimulation and do not at once introduce into the circulation a quantity which can possibly cause tetanic spasms of the respiratory muscles, which, with the anæsthetic, can easily lead to asphyxia.

The patient should be warmly clad, and the garments so arranged that they can be easily removed, if necessary, after the operation. The patient should, if possible, remain in bed for twenty-four hours before the narcosis; artificial teeth should, of course, be removed before the inhalation begins, and under no circumstances should they be replaced until the patient has fully regained consciousness; to avoid being misled, the mouth should be examined after the patient is anæsthetized.

The temperature of the operating room should be from 80° to 85° F., and the patient should be kept covered with woolen blankets throughout the narcosis, special care being observed when, for any reason, the patient is moved from one room to another. The temperature falls during the administration of anæsthetics;

this is not only due to the increased loss of bodily heat from the anæsthesia, but largely to a decrease in tissue metabolism. I have seen the temperature fall eight degrees in a septic case in which, before beginning the inhalation, the thermometer registered 103° F. (the patient had had a continuously high fever), and at the end of the first half hour of anæsthesia the temperature had fallen to 95° F. The anæsthesia can be begun either with the patient in bed or in an adjoining room to that in which the operation is to take place; or, if he is not nervous or easily frightened at the operative preparations, it may preferably take place in the operating room itself.

The posture of the patient is preferably the dorsal one, but any posture may be used, according to the nature of the operation, such as the prone, the side, or Sims's posture. Here particular care must be taken of the patient's arms and legs, that subsequent paralyses will not result. The crutch or apparatus for maintaining the posture of the patient also needs attention, that pressure may not occur on supplying nerves. If the Trendelenburg posture is necessary, from time to time the patient should be returned to the horizontal, and so avoid the continual stress upon the diaphragm. When nitrous oxide is used, the sitting or recumbent posture may be used. Some English anæsthetists also give ether in the sitting posture. It must be said, however, that chloroform must *never*, under any circumstances, be given in any but the recumbent posture, as it is a circulatory depressant, tending to cause vasomotor paralysis, which the horizontal posture tends to counteract. Deaths have occurred when taking chloroform in the sitting posture for the extraction of teeth.

The more proficient one becomes in the administration of anæsthetics, the less frequently will arise emergencies, the means for treating which should always be at hand, and may consist of the following:

Proper ether inhalers.

Chloroform inhalers.

Ether, in small quantities in hermetically sealed containers.

Chloroform, in tightly corked bottles.

Chloroform drop bottles, preferably the kind made with the ground grooved-glass cork, by which the anæsthetic can be made to flow drop by drop, with the required rapidity.

Alcohol, in a glass-stoppered bottle.

A glass funnel and graduate.

A Maunders's screw gag for opening the mouth.

A Denhardt's or Mason's mouth gag protected with rubber.

Tongue forceps; for this purpose a Lüer's serre-fine or the broad Péan hæmostatic forceps, or Hunter's sponge forceps may be used.

Sponge holders.

Tracheotomy instruments.

A Hagedorn needle threaded with strong silk.

Four to six feet of rubber tubing.

Soft-rubber catheters of three sizes.

The canalized Wales bougies.

Several hypodermic syringes.

Hypodermic needles in a glass receptacle.

Several pieces of gauze, of the size required for ether and chloroform inhalers (sponges should not be used).

A glass-stoppered bottle filled with boric-acid solution, for use in dissolving hypodermic tablets.

Hypodermic tablets of strychnine, atropine, morphine, digitalin, caffeine, etc., single or combined in various ways.

Then the nitrous-acid inhaling apparatus. This is all carried compactly in a leather satchel.

It is interesting to note that the first three anæsthetics used in surgery are still at the present day in the highest repute. We can with advantage discuss them in the order of their acknowledged safety.

In the selection of the anæsthetic to be used we must consider:

1. The character of the operation.
2. The particular type of patient.
3. Results of the patient's physical examination.

(To be concluded.)

ODD TYPES OF DISEASE.*

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THAT the routine outlining of diseases as quite exact entities is the ideal and desirable method of teaching can not be gainsaid. Such diagrammatic instruction presents the cardinal points in tangible form. But that there are a certain percentage of truant affections, especially in the nervous system, is to be emphasized. Here it is that lesions may happen to be in a part of comparatively small importance; or it may be that the same disease process is existent in a more vital situation, or in some closely contiguous structure, so that localizing symptoms will be exact. Here timely treatment may cure or aid in prevention of further trouble. Or, again, an aberrant symptomatology may result from a lesion affecting the system of nerve fibres or of their central neurones; then the semeiology may far exceed the anatomico-physiological pathogenesis, especially if function is lowered from other intrinsic causes. Finally, and somewhat the converse of the foregoing, the most difficult cases are those where there is an apparent compatibility of normal function with abnormal structure—*i. e.*, where vicarious action maintains the balance until the "breaking strain" of some extrinsic cause is "the last straw," and a sudden degeneration ensues.

*** Read before the Academy of Medicine of Atlantic City, N. J., April 14, 1899.**

Hence, the physiological disturbance possible following upon an initial or insidious lesion in a definite neuro-anatomical site may soon become so widespread or erratic in the symptom production following the secondary phenomena thus set up, that the best observer may rarely have to acknowledge defeat with all his modern methods. When the chain is once broken morbid physiology may also run riot and the usual symptoms not present. It occasionally happens, therefore, that the accurate dividing line, even between one so-called system disease of the cord and another, is not infrequently indeterminable early, just at the time when most good could be done by therapeutics. Or the dominant symptoms of these nicely defined tract affections later may be readily discerned, or, still more advanced, again confused, where in both medicine can do least for the *summum bonum* of the afflicted. So in the transition from minor to major, observation of many cases will have been paramount ere you honor a topographical or nosological diagnosis in these exceptional diseases—the odd types. Many of the passing neural symptoms casually seen in general affections must be critically studied in the future for proper interpretation of ætiology, and hence of rational treatment, before the severer organic lesion is set up. The ideal is to seek pathogenesis more than pathology.

The statement made by some wise author, in purport, that all ships look more romantic than that upon which we sail, bears a close analogy to the difficulty in accurately diagnosticating some of our own cases, where the paradox of the parselene seeming to be the real luna of signs is most confounding. The study of the individual case most thoroughly, then, will make early diagnosis, and hence therapeutics, brighter.

It is for all these reasons that I drop routine tonight and take up some classes of cases that can bear especial study in order to make out those rarer peculiar morbid entities, points which come by intuition, some may declare; but is this not an expression of a critical though quick observation of details?

Cord Diseases.—Tabes dorsalis * has been reported by the writer, with an analysis of one hundred and ninety-four cases, especially with reference to the oddity of precocious cases, in that the Argyll Robertson pupil is less constant, myosis seeming to be more common, and the knee-jerk not so early or continuously lost—no doubt due to the greater resiliency of blood-vessels allowing of better collateral nourishment of sclerosing areas. And yet, if the cause of the disease be an infection, at the same time these more elastic vessels in the young allow ready ingress to all parts of the central nervous system, and the case may be much more rapid, though aberrant, in youth. I have seen, too, the case of a young ataxic, aged twenty-four, with arteries much older for his age, and with marked arcus senilis, in which the tabes was running the usual routine of slow course, with all the cardinal symptoms. That a man generally lays down lime salts in his arteries (arterio-sclerosis) because he is getting old, goes without saying, but that this can occur early also proves treatment can avail much in delaying this stigma of real senility.

Occasionally a joint dystrophy is the most prominent sign of posterior column sclerosis, as in one of the cases seen at the Orthopædic Hospital and Infirmary for Nervous Diseases. These cases are to be studiously watched, so that the unhappy statement of the malady being a chronic rheumatic or tubercular joint may not confront you later. One case at the same clinic also presented the unusual feature of Argyll Robertson pupils in a man past forty years, in whom the Romberg and other symptoms were entirely absent. This is a rare eye type of tabes, undoubtedly, which will no doubt be slow in developing cardinal symptoms. How to interpret the pupillary inaction to accommodation and yet with normal light reaction persisting, as seen in one of the recent cases in a man aged thirty-five, is difficult. It would seem to show that receptive impulse from light was required to arouse the atonic oculomotor centres into activity by irritation of them, which were not sufficiently stimulated by any subjective force that the patient could bring to bear—his power of concept expression needed reenforcement from an outside source. These peculiar actions of the pupils, when at all constant, exclude hysterical basis or mere hæmatrophic malnutrition as the genesis, and bring a neurotrophic failure as causative, whether from sclerosis or inherent weakness of the central neurones. Many of these odd pupillary states may in future serve for the more scientific diagnoses of cases still obscure.

The new phenomenon recently described by Gifford, of contraction of the pupils upon forcible closure of the eyelids, needs more than reflex as an explanation; while the case recently reported to the New York Neurological Society by Sachs, of station becoming much more insecure with the eyes closed in a totally blind man from optic atrophy, may yet be interpreted. Explanation of the lack of the Argyll Robertson pupil in Friedreich's disease is due, no doubt, to persistence of better circulation in gliosis rather than in sclerosis existing in the true tabes. Nystagmus in this affection must be caused by nuclear irritation.

Many faulty conditions of equilibrium are suggested by these odd eye phenomena. In a study of the deaf-mute the writer has begun, the fact that in cases of deafness the patients are liable to subjective and objective vertigo, and yet almost never become seasick, is interesting. It throws light upon general medicine, and confirms the view that seasickness is due to central trouble, perhaps the roll of the wave transmitted to the intravestibular lymph or intracanalicular fluid, which is inspissated in the deaf. That the stomach is not the cause of seasickness, I can cite cases, especially of one man, aged fifty, with the most pronounced gastro-intestinal indigestion from gastrectasia and auto-intoxication following; and yet his auditory apparatus is so immune that with the worst crises of indigestion he can sail on the roughest seas with no signs of *mal de mer* proper developing.

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* *Therapeutic Gazette*, October, 1898.

The more rapid progress of ataxia when occurring in the African race is to be noted; also the greater liability to phthisis in them is a fact. For study of details of a case of spurious ataxia, with long-delayed knee-jerks, myotic pupils, and family type of deafness, with vertigo, auto-intoxication, and indicanuria, the reader is referred to the *University Medical Magazine* for April, 1899.

Myelitis is to be distinguished from that generally more extensive malady—so-called syphilis of the spinal cord. The greater complaint of formication (and generally in the lower extremities); the symmetric equality of the whole spastic syndrome, though perhaps less marked increase of knee-jerk in myelitis than in the tertiary specific meningo-myelitis; the greater subjective pains in the latter, due to pressure on the sensory nerve roots from the exudate about and in them, therefore the more liability to dysæsthesias or anæsthesias in syphilitic disease; while, finally, early bladder incontinence is most frequent in the specific affection due to the wider lesion. And yet decubitus is less apt to occur in syphilis of the cord where all sensoro-trophic centres and paths are seldom entirely cut off, while the myelitis more frequently destroys the anatomico-physiological structures *en masse* at special levels of the cord. Specific cord disease occurs five or six years after the initial lesions, myelitis soon (almost at once) after an exciting cause.

If the case presented for diagnosis between these two affections gives a history that is unreliable or falsely told, questioning as to headache or diplopia will be important points; for at some stage of the early luetic trouble the cerebral meninges will likely have been involved, while the nerves passing out to the eye muscles are pressed upon, or a perineuritis exists.

Why paræsthesia does appear so much sooner and persistently in transverse myelitis seems explained by the general involvement of all sensory paths, and yet it is not infiltrating enough about the roots to cause the severe pain seen in specific disease. Specific cord disease is the more favorable in prognosis.

The deposit of pigment in the skin is not very uncommon in mental and in organic cord diseases, and this may be exaggerated by the overuse of that most valuable drug in neurology—arsenic. In passing, it may be said that arsenic probably acts so favorably in aiding nerve and skin diseases by setting up an irritation in the nerve cells, and in this way stimulating the neurones toward physiological action. In the light of modern cytology this would seem a very probable explanation, rather than making the vague statement that the drug simply acts as an alterative. Trophic influence thus has a physical basis, and by assuming motility of the neurone new fields for the action of drugs and remedial measures are being better learned. Irritation likewise explains the value of the remedy in chronic skin disease.

Barring self-intoxication, extravasations of blood, and direct traumatic ecchymoses, or those of fatty degeneration which are the sequel to pernicious anæmia, or of hysteria, it is unusual to find blood leakage other than in hæmophilia. That the sudden contraction of muscles may alone cause these purpuric spots is proved in a few recorded instances. Last year the writer reported an odd case of ataxia paraplegia, where these spots had appeared in two separate instances after terrible attacks of pain in the lower extremities. It is probable that the blood is simply forced through the arteriole walls in such exceptional local spasms. S. Weir Mitchell has reported several cases of this unusual condition. The blood is generally reabsorbed without any other trophic disturbance.

Two exceptional cases that were reported at Dr. Mitchell's clinic recently upon the same day illustrate fairly well as to time and symptoms the origin of myelitis and of syphilis of the cord. The most unusual of the cases was that of a man, aged twenty-four, who had had a protracted attack of typhoid fever, with several relapses and profound systemic poisoning. At the end of three *months* a rather sudden myelitis set up, and he became symmetrically spastic in both lower extremities, without vesical involvement or pain. In the other case, also of a man, aged thirty-five, succeeding the specific infection three *years* his erratic spinal syphilis gradually developed, with early bladder incontinence, great pain, and spastic arm involvement.

Cerebro-spinal Palsy. — Microcephalic and hydrocephalic imbeciles are usually also cases of spastic diplegia, from the fact of cerebral cortical irritation due to prenatal faults in development or to inflammatory lesions. And in girls so affected, club feet due to contractions are less frequent. Since the writer first reported upon this * a constant search in the study of feeble-minded children has failed to reveal reason for this, except in the fact that in such spastic children boys are more active, so that in going about contractions are often prevented.

A peculiar case of cerebro-spinal paralysis recently came under my care in a very intelligent man, aged thirty-four years, in whom the usual report of a fall at six months of age was given. His trouble was congenital, of course, but it did not manifest itself until the child developed. This man grew to adolescence; he had been unable to walk at ten years, and his parents had been told by his physician that it would be impossible for him to live beyond eighteen years. The boy's fat was then enormous. In the active exercise then begun he lost sixty pounds in six weeks. In his fifteenth year, treatment by movements and stretching was begun and persisted in for a year. He got on his legs. The right hand only escaped gross disease contracture, but he has been getting about on crutches ever since in good general health, and is able to earn a livelihood as justice of the peace. This case shows the value of persistence in treatment.

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* *Transactions of the American Academy of Medicine*, 1895.

Chronic Poliomyelitis Anterior.—This disease is not difficult to diagnosticate in most instances, but occasionally the demeanor of symptoms cross with those of multiple neuritis, and make, therefore, the difficulty of prognosis greater. The case of an otherwise robust man, aged thirty-three, seen April 1, 1899, is in point. He was a non-alcoholic, and was affected, without much pain and little paræsthesia, with a gradual symmetric loss of power of the lower extremities. The knee-jerks were lost, fever had been only transient if at all, and this, with the indication of low location of cord lesion, shown by the patellar reflex being absent, would necessarily imply some bladder involvement, of which there has never been a sign; so, a myelitis proper would at some stage have produced spastic reflexes, and if it had gone beyond this, trophic ulceration would pretty certainly have followed, which also has never been. Then pain or tenderness down the nerve trunks was never prominent. At present, after three years of the affection, there is fibrillary twitching of the muscles of the lower extremities, especially marked over the more wasted adductions and extensors of the thighs, but not the general reaction of degeneration to be found in so widespread a paraplegic neuritis. It is a rare case, no doubt, of spinal chronic progressive muscular atrophy. Peculiar, too, in the case was the gait, the body being held advanced over the thighs at an angle of ninety degrees, so as to prevent backward falling of the trunk, so complete was the muscle paralysis in the recti-extensor group. This was confusing as to possible existing bone disease of the vertebræ.

Cerebral Disease.—Abscess of the brain is so fatal a condition that early diagnosis means the only hope, and then by surgical interference. A recent *résumé* of the literature of this subject, by Joseph Collins,* shows, however, that we are becoming clearer in understanding the generally aberrant, it is true, localizing symptoms. Add to the recognized signs of local brain disease the history of trauma or of middle ear disease; and especially with tenderness over the suspected cerebral or cerebellar region, plus the particularly incomplete, easily-aroused-from delirium, the liability to hemianopsia and less prominent choked discs, as in true tumor formation, and you have a case justifiable for exploratory operation as the only possible hope. Such a case I am at present treating for optic atrophy following septic ear disease, in which the boy, however, was snatched from death by timely trephining by Dr. W. W. Keen.

Dr. C. A. Veasey † has recently reported the odd eye atrophy and central scotoma. I wish here to express a hopefulness in treating such precocious secondary optic atrophy by galvanism, as in this case the boy certainly sees objects better after the treatments.

Cerebral Œdema.—Can such a pathological entity exist? This has been a much-discussed subject. Certain good authorities contend that it does exist, while other clinicians say no.

Barring toxines, there are other causes leading to such effusion. In the acquired (alcoholic) sanguineous temperaments seen in club men, with urine of low specific gravity, but no casts, albumin, or sugar being found, symptoms such as the following may develop after an engorgement of the stomach: Sudden dizziness, loss of power, say on the right side of the body, with motor aphasia, paræsthesia or obtunding of sensation, semicomatose or entirely comatose condition. By purging with salines, all evidence of palsy disappears in twenty-four hours or so, and, barring general weakness, the patient is well in a few days. Certainly, in such a case as I have seen there was no hæmorrhage, and from analogy the patient must have had œdema over the left motor area of cortex. Should such a case come to autopsy, it might be even difficult to find œdema lost in the section, but this does not prove that serum leakage did not occur at the time. These cases are to be looked for. A guarded prognosis is necessary, as many patients entirely recover if the exciting cause is cut off.

Traumatic Neurosis or Hysteria.—Discussion upon this important subject is of interest from the therapeutic standpoint mainly, and is superlative from the medico-legal point of view. The French school of Janet and Sollier, with that of the Germans following Freund, insist that trauma alone produces, by functional disturbance, subconscious states dominating mind and body, and that ergo hysteria is the *casus belli* for the symptomatology of all cases of injury due to any form of grossly non-demonstrable organic lesion in life. That many cases are purely hysterical can but be proved by suggestive cures. That there are others in which such violent commotion of the cord produces nutritional changes of profound degree, even to degeneration and final mixed sclerosis, can in all candor not be denied by seeing the spastic reflexes or nystagmus, true ankle clonus, atrophy of muscles, and all the cardinal signs of insular sclerosis. That there is a background in hysteria painted in the picture of even the known organic cases must be admitted in traumatic spinal neurosis. This does not determine that the consideration of organic disease in the case is not necessary, and if proper evidence as to the cause of the trouble is given, damages should be awarded by the courts just as in other accident cases.

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* *American Journal of the Medical Sciences*, April, 1899.

* *Transactions of the Section on Ophthalmology, College of Physicians*, April, 1899.

The case of M. M., aged fifty-one years, seen with Dr. Hiram Hiller, is in point—a medico-legal case in which suit was brought for injury sustained by the man having been thrown from his cart by collision with a street car. He was under surgical care for three months. After the trauma he was unconscious for seven weeks of the time, followed by occasional muttering delirium. He made a very slow improvement, but has been slightly neurotic ever since; has expansive ideas, thinking he is well off, which is at times alternated with melancholy spells. He can not concentrate his mind; is subject to dizzy spells; the knee-jerks are spastic, and abortive ankle clonus exists. There is nystagmus. The pupils and discs are normal; his urine dribbles from him. This patient certainly had insular sclerotic cerebro-spinal sclerosis due to the accident.

In his book Pearce Bailey upholds the possibility of organic cord disease existing in such cases. In a recent paper, read by Spiller before the Section on Medicine, College of Physicians (April 10, 1899), the writer stated that a cat had been subjected to trauma of the spinal cord without external evidence of injury, and at the post mortem there had been found extensive, though slight degeneration in the antero-lateral columns of the white matter.

While I am not aware of histological study having been made in traumatic spinal neurosis in man, from analogy it would seem evident that nutritional sclerosis could occur in man, due to the *commotio in vita;* and certainly from the clinical symptoms, as before mentioned, organic trouble must exist, albeit at times after months there may be regeneration, just as we know to occur in nerves; and the old idea that such regeneration can not take place within the cord is not to be proved. Some cases of so-called hysterical paraplegia, too, may have been really of this nutritional organic pathology, not disproved by eventual recovery to full health.

Simulation in the vast number of these neuroses, to my mind, can not be entertained, for such patients have never seen the organic disease of which they present often typical signs; and, furthermore, if they had observed such, it would require the skill of a trained clinician to copy.

Patients in cases of this character should be as much entitled to damages, when such a condition exists, if not more so, as in the case of a fractured leg or of partial amputation, for bodily impairment is for years or life.

A profound terminal irritative neurasthenia may indeed result. Six months or a year of treatment will alone give knowledge as to possible recovery. Malingering must be pretty certainly ruled out of court in most of these cases. It would take more than an expert to do it.

Hebephrenia, or insanity of adolescence, is a peculiar affection occurring in the second half of the first decade of life, and in the first half of the second decade of life more frequently. This was first described among the distinct forms of developmental insanities by von Hecker, in 1871, and has been recently critically studied by Ilberg.* I shall not go into detail of these cases, but will mention the finding of severe auto-intoxication in a case of Dr. H. Brooker Mills, and in the case of a girl, aged twenty-two years, now under my care, as shown by persistent constipation for years, and by large quantities of indican found in the urine. The former patient is now convalescing, after four months' rest, feeding, and antiseptic treatment of the gut, while my patient is still in the active stage of the disease, with the prognosis uncertain. [*Note*, July 11, 1899.—This patient has recovered. Her bowels are now regular, although they had not been so for years.] The fact of lowered nerve resistance in such cases, probably hereditary, is given as causative, but in these two cases an undoubted self-intoxication was the exciting cause of mental symptoms. When we recall that metabolism is more frequently perverted in the young, we can hope that bodily physic may prove to be the most effectual treatment, with, of course, all known neurological care implied by rest and change of scene.

Sydenham's chorea at times takes on the odd phase of becoming chronic in all its typical symptoms, as in a girl, aged eighteen, who is in no way hysterical.

Two instances of transient glycosuria in neurasthenic men with dilated stomachs (hyperacidity five to five and a half per cent.) recently coming under the care of Dr. Wharton Sinkler, and in my own practice, go toward confirming the close connection between the fermentation catabolism and symptomatology.

Dr. John M. Swan also tells me of a case of acute neurasthenia in which he found ten per cent. glycosuria for days, then it finally disappeared. I can not think this sugar comes from tissue waste in these cases so much as from, perhaps, a hyperacidity (as recorded in the cases I examined the stomach contents of), which causes acidity of blood, and in the liver prevents the proper conversion of the carbohydrates to glycogen by such non-alkalinity. This work in physiological chemistry holds out valuable prospects. The recent work is showing this. Dr. Carstairs C. Douglass reviews some interesting studies in the London *Lancet* for April 1899,† although the simultaneous urinalyses are not given.

There are many other peculiar nervous diseases, time will not permit of mentioning, save that serious and rare state, uterine peripheral neuritis, simulating renal colic first seen in the practice of Dr. E. Pearce, of Ohio, in a woman who died from a fulminating multiple neuritis primarily beginning in the uterus, following cold. Such a case came under my own care recently, and was most difficult to distinguish from renal colic. The pain is perhaps more constant and lower than in nephralgia, and on questioning you will find a history of uterine disturbance, amenorrhœa, preceding the attack. My patient recovered slowly with atrophied muscles of the legs.

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* Das Jungendirresein Hebephrenie und Katatonie. *Sammlung klinischer Vorträge*, No. 224, October, 1898.

† The Contents of the Stomach in the Gastric Crises of Locomotor Ataxia.

Finally, I wish to remind you that any outside cause of mental depression should be looked for. Worry is the cause of "wear and tear," undoubtedly, so that we should look all the way round the circle for the missing segment before these morbid symptoms can be eradicated.

Superfluous hair is the cause of secretiveness, depression, and final neurasthenia in not a few women, and should be corrected just as fully as you would have an active gynæcological lesion repaired. This work of depilation can now be done scientifically and permanently by electrolysis.

It is well for the broad physician to look up a diplomatic trained nurse, teach her the use of this accurate agent, and then put his cases in which the treatment is needed under her care. Much of the quackery practised in these lines with the aid of various arsenical pastes, I think is due to the fact of the neurologist not paying attention to this important measure. In a case under my care the patient has been cured by this operation, which was carried out by a trained woman under instruction; a good mind has been reclaimed.

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A REPORT OF TWO CASES OF

TYPHOID INFECTION WITHOUT ANY INTESTINAL LESIONS.

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The belief that typhoid infection may exist without any lesions of the intestine is by no means one of recent origin. So long ago as the early half century Louis referred to this possibility in Observation LII of his *Recherches anatomiques, pathologiques et thèrapeutiques sur la fièvre typhoide,* a case having all the clinical symptoms of typhoid fever, in which, however, the necropsy had failed to reveal any implication whatever of the intestinal tract. Litten (1), Moore (2), Church (3), and other observers have also recorded similar examples in which no intestinal disease existed. Although these observations possess little value as scientific contributions to this subject for lack of a bacteriological basis, nevertheless they are interesting as appreciations of the existence of an atypical type of this disease.

The bacteriological era in the investigation of these forms begins with the study of a case by Banti (4) in 1887. The patient was a woman, fifty-one years old, who during life presented the usual symptoms of enteric fever. Death took place on the twenty-eighth day of the disease. At the autopsy no intestinal lesions were found, but the spleen and mesenteric glands were swollen. In the sections from these tissues bacilli morphologically similar to the *Bacillus typhosus* were found. Thue (5) in 1889 described the case of another patient, in the spleen and kidney of whom he professes to have found the bacillus of typhoid fever.

With the publications of Vaillard (6), Chantemesse (7), Karlinski (8), Vincent (9), Guarnieri (10), Du Cazal (11), Kühnau (12), Pick (13), Meunier (14), Beatly (15), Flexner and Harris (16), Cheadle (17), Chiari and Kraus (18), Nickolls and Keenan (19), Lartigau (20), and Bryant (21), accuracy in methods of study become progressively better and the results more convincing.

To the foregoing cases I wish to add two others, for the histories of which I am indebted respectively to Dr. Samuel B. Ward and Dr. Willis G. MacDonald, of Albany, New York:

Case I.—Charles P., single, fifty-one years of age, colored, was admitted to the Albany Hospital on February 28, 1899, suffering with pain in the head, back, chest, and limbs; there was also some fever.

Family History.—Father died of "dropsy"; mother succumbed to heart disease, aged fifty-six. A brother and two sisters are living and well.

Personal History.—When ten years old he had an attack of "the gravel," accompanied by paroxysms of pain in the back. For many years the patient has suffered from repeated attacks of acute articular rheumatism, affecting the knees, elbows, ankles, and smaller joints. No other illness.

Present Sickness.—About two weeks ago he was taken ill with acute pain in the head, back, chest, and limbs. Within two days he had a cough and marked shortness of breath; had been in bed for nine days previous to admittance, during which time there had been no amelioration of the symptoms.

On admission, the temperature taken in the axilla was 99.4° F.; pulse, 102 and regular; respirations, 32. The patient is of medium build, moderately well nourished; answers questions intelligently. Pupils equal and react to light; conjunctivæ suffused. Tongue is coated with a brown fur on its dorsum. No œdema; no eruption on skin; no nosebleed; bowels constipated. The heart sounds are somewhat feeble, but otherwise apparently normal. Over both lungs anteriorly and posteriorly a few coarse moist râles may be heard. Spleen is not enlarged. The hepatic dullness is apparently normal. The abdomen is slightly tympanitic; no iliac gurgling or tenderness.

March 2d.—The examination of the urine is negative for albumin and sugar. Microscopically the sediment shows nothing pathological. Temperature in the mouth, 99.4° F. last evening; pulse, 88.

4th.—Anorexia is almost complete; temperature and pulse about the same. The heart is normal; over both lungs fine moist râles. Spleen is not palpable. Some occipital headache.

5th.—Eleven A. M., temperature, 102.4° F.; pulse, 130, irregular and dicrotic. During the afternoon yesterday had a succession of convulsions, rapidly recurring at intervals, at first, of ten or fifteen minutes; toward evening, however, became more infrequent. At this time both pupils were dilated and equal, head drawn back. Chill during the night; heart sounds feeble and muffled; lungs same as yesterday. Patient died at 3 P. M.

Autopsy (two hours post mortem).—Anatomical diagnosis: Typhoid fever without intestinal lesions; chronic interstitial nephritis; broncho-pneumonia, with œdema of both lungs; chronic adhesive pleuritis; hypertrophy of left ventricle; red and white infarctions of liver and right kidney; cloudy swelling of the liver and kidneys; concentric hypertrophy of the bladder; fatty atheroma of the aorta; chronic gastritis; pyocyanic infection of the lungs.

Body 160.5 centimetres long, moderately well built, fairly well-nourished negro. Rigor mortis well marked in upper and lower extremities. Post-mortem lividity of the dependent parts. Both pupils widely dilated, the left less so than the one of the opposite side. No evidence of cicatrices on glans penis. Mucous membranes pale. Muscles of thorax and abdomen reddish brown color.

Brain and cord not examined. Abdomen: Peritoneal cavity free from any excess of fluid; both layers of the peritonæum are normal in appearance. Omentum contains a small amount of fat; omental glands not enlarged. Foramen of Winslow patent. Diaphragm, on the right side, fourth rib; fifth space on the left side in the mammary line. Thorax: Both pleural cavities free from fluid. Præcordia measures twelve by nine centimetres; both layers of the pericardium are smooth, glossy, and free from injection. The heart is very large; distended with fluid blood and red and chicken-fat post-mortem clots; endocardium smooth; valves normal; left ventricle measures two centimetres in thickness, consistence firm, and on section the color is brownish-red with streaks of yellow. Both lungs are bound down laterally and posteriorly by old firm adhesions; upper lobes congested and emphysematous; lower lobes on both sides present broncho-pneumonic areas surrounded by œdematous lung. Bronchi: Mucous membrane intensely congested and covered with a small amount of yellow muco-pus. Pulmonary vessels normal. The spleen is bound down to abdominal wall and omentum by old, firm fibrous adhesions; organ measures $8 \times 6 \times 2.75$ centimetres; capsule smooth, not wrinkled; consistence about normal; on section, of a deep reddish-brown color; trabeculæ not increased in amount; Malpighian bodies prominent. Liver: Not enlarged, capsule smooth; on section, organ is an opaque grayish color, lobules indistinct. The kidneys are normal in size; consistence not increased; losses of kidney substance apparent here and there on the surface. On section, the organ is pale; cortex irregularly diminished; cortex markings distinct; glomeruli visible; medulla and pelvis normal. Both adrenals, ureters, and œsophagus normal in appearance. Pancreas is firm, and on section presents no abnormity. The retroperitoneal and mesenteric glands are not swollen. Prostate and testicle show no changes. The bladder is diminished in size; walls markedly increased in thickness, the average being one centimetre; mucous membrane congested, and shows small pinhead and larger discrete and confluent submucous hæmorrhages. Stomach: Not enlarged; walls about normal in thickness; mucous membrane covered with sticky mucus and irregularly atrophied. The large and small intestine show absolutely no change whatever. Aorta: Slight fatty atheroma.

Microscopical Examination.—The tissues studied were all hardened in ninety-five-per-cent. alcohol. The sections of hardened tissues were stained with hæmatoxylin and eosin, Van Gieson's picro-acid-fuchsine, with Weigert's fibrin stain, and by Flexner's methylene-blue method.

The histological examination of the heart showed, in addition to an increase in the thickness of the epicardium, a well-marked chronic interstitial myocarditis. The sections of lung in some places showed the lesions of emphysema; elsewhere those of emphysema and œdema; and finally those from the lower lobe presented the ordinary appearances of broncho-pneumonia and œdematous lung. Liver: The portal spaces showed a moderate cellular increase, made up largely of small round cells. Besides cloudy swelling of the liver cells a few of the "lymphomata" commonly present in ordinary cases of typhoid fever, were made out. Some congestion of the spleen was made out, but no focal necroses were detected. The kidney sections showed a moderate degree of chronic interstitial nephritis, with a well-marked endarteritis of the finer blood-vessels. The examination of the pancreas, adrenals, and testicles added nothing to the macroscopic findings.

Prolonged and minute examination of sections of the broncho-pneumonic lung, liver, spleen, and kidney stained with Weigert's fibrin stain failed to demonstrate any micro-organisms; but sections from the liver and spleen stained by Flexner's methylene-blue method showed clumps of short, thick bacilli in the tissues. Treated by Flexner's method, the broncho-pneumonic lung also contained bacilli, but morphologically differing in being longer and more slender.

Bacteriological Examination.—Cover slips from the areas of broncho-pneumonia contained a large number of polymorphonuclear leucocytes, a few epithelial cells, *débris*, and a moderate number of slender bacilli of medium length, which readily decolorized by Gram's method. Plate cultures in agar were made from the blood of the heart, broncho-pneumonic lung, liver, spleen, gall bladder, kidney, and urine. Those from the heart's blood and spleen remained sterile at the end of three days' incubation at 37.5° C. The culture from the broncho-pneumonia contained a profuse pure growth of the *Bacillus pyocyaneus*. The plates from the liver, gall bladder, kidney, and urine all contained a single organism morphologically similar in all the cultures. The morphological and cultural characteristics of this organism are as follows:

Agar-agar slant: At the end of twenty-four hours a thin, moist, translucent gray or white growth along the surface.

Blood serum: The appearance of the growth upon this medium is practically the same as upon agar slants.

Potato: Scanty, moist, almost invisible growth along the line of inoculation.

Gelatin stab: A white growth along the inoculation line. No liquefaction of the gelatin at the end of twenty days.

Litmus milk: The medium at the end of forty-eight hours becomes faintly pink, but at no time becomes coagulated.

Bouillon: Diffusely cloudy in twenty-four hours.

Dunham's peptone medium: Diffusely cloudy, like the bouillon. No indol reaction.

Glucose and lactose agar: Growths along the inoculation tract, but no evidence of gas formation.

Preparations from different media showed slight morphologic variations, notably the growths on potato; but generally the organism appeared as a rather short, thick bacillus with rounded ends, which quickly decolorized by Gram's staining method. In hanging-drop preparations from young bouillon cultures (twenty-two to twenty-six hours) the bacilli were actively motile. By Pitfield's method the flagella (ten to twelve) were well brought out with the characteristic peritrichal arrangement. The organism was tested with sera from three known cases of typhoid fever, and a positive Widal reaction was obtained in each instance.

Bacteriological Diagnosis — *Bacillus typhosus.* — Blood obtained post mortem from the right auricle was tested with a twenty-four-hour-old bouillon growth of the laboratory stock culture. In a dilution of one to thirty a positive reaction was obtained in twenty minutes; with a dilution of one to fifty the agglutination and immobility were complete in forty-five minutes. With the typhoid bacillus from this case, in a dilution of one to fifty, the reaction was complete in forty minutes.

CASE II.—Mary L. J., married, aged thirty-one years, American; entered the Albany Hospital March 11, 1899, complaining of general abdominal pain and tenderness, most marked in the region of the left iliac fossa.

Family History. — Father died of tuberculosis. Mother alive and well. Two brothers died of meningitis in infancy. One brother and four sisters alive and well.

Personal History.—As a child she suffered from measles, chicken-pox, and mumps. During the month of November, 1898, the patient was sick for three weeks with an acute febrile malady which was diagnosticated as typhoid fever.

Present Illness.—This began about five weeks ago, when she was taken ill with sharp paroxysmal pains starting behind in the lumbar region and extending forward on either side toward the umbilicus. For the first two weeks the attacks were infrequent, but since have progressively increased both in frequency and severity, so much so that at time of admission the pain was constant, and referred in large part to the iliac region on the left side. The last menstruation occurred in the first week of January, 1899.

On entrance into the hospital the temperature taken in the mouth was 102.4° F.; pulse, 118, regular, of fair volume, and not dicrotic; respirations, 27. The build was slim, body moderately well nourished; intelligence good. Pupils were normal and reacted to light; conjunctivæ normal. Tongue was covered on the dorsum with a thin white fur. No œdema. No eruption on skin. Examination of the heart was negative. The lungs gave no evidence of any abnormity. Spleen was not palpable; the liver was apparently normal. The abdomen was tender, more particularly on the left side in the iliac fossa. Palpation was negative. Vaginal examination showed a normal cervix. Bimanual palpation: Uterus about normal in size, the body directed forward and freely movable. On the left side an indefinite mass of the size of a hen's egg, not freely movable and firm to the touch. The examination of the opposite side was negative.

March 12th.—An abdominal section was done at 12.25 P. M. Diagnosis of ectopic pregnancy confirmed, and removal of left tube and ovary with gestation sac. Patient returned in good condition; pulse, 125; respiration, 30. At 6 P. M. complained of pain in abdomen; pulse, 115, and intermittent; temperature, 101° F. Urine normal.

13th.—Considerable nausea and vomiting; evening temperature, 100.6° F.; less pain in abdomen.

14th.—Nausea and vomiting persisted. Complained of headache; restless; temperature, 100.1° F.; pulse regular, good volume; heart sounds normal. Lungs showed nothing abnormal. Slight blood-stained discharge from uterus.

15th.—Dyspnœa during the night; mind clear; respirations, 36; pulse, small volume, intermittent, 150 per minute; temperature at 8 A. M., 100.2° F.; at 1 P. M., 102.6° F. Died at 2 P. M.

Autopsy (an hour and a half after death.)—Anatomical diagnosis: Typhoid fever without intestinal lesions; laparotomy wound (removal of left tube and ovary for extra-uterine pregnancy); acute splenic tumor; cloudy swelling of the liver and kidneys; endometritis; triple phosphate calculus in pelvis of right kidney; typhoid and streptococcus infection of uterus; diplococcus lanceolatus septicæmia.

Body 161 centimetres long, slim build, and sparely nourished. Surface of the body generally pale. Rigor mortis absent in upper and lower extremities. Slight livor mortis of the dependent parts. Pupils midwide and equal. Mucous membranes pale. In the midline of abdomen was a linear incision eleven centimetres long, extending from the pubis upward, which appeared perfectly healthy.

Brain and cord not examined. Abdomen: Parietal peritonæum presented a normal appearance; the visceral layer was smooth, glossy, and moderately injected, especially that portion over the lower third of the ileum. Omentum contained a few discrete pinhead to pea-sized hæmorrhages. Foramen of Winslow not patent; diaphragm on the right side, fourth space, on the left side, fifth space, in the mammary line. Thorax: Both pleural cavities were free from fluid. The pericardium was normal; the heart was distended with fluid blood and some red clots, and showed no abnormity. Both lungs were free from adhesions, crepitant, and on section light pink in color. Bronchi and pulmonary blood-vessels normal. The spleen was adherent to the omentum by a few old, firm bands; organ measures 15×9×5.5 centimetres; capsule smooth and not wrinkled; consistence diminished; cut surface reddish-brown; trabeculæ normal and pulp apparently augmented; Malpighian bodies prominent. Liver increased in size; capsule smooth; consistence softer than normal; on section, an opaque grayish color and lobules indistinct. Gall bladder moderately distended with thick, dark-colored bile. Kidneys slightly swollen, especially the cortical portion of the organ; consistence about normal. The pancreas, suprarenal capsules, and retro-peritoneal glands showed nothing abnormal. The same may be said of the aorta, stomach, bladder, and vagina. The mesenteric lymph glands were not swollen. The intestine showed absolutely no evidence of past or recent changes; the mucous membrane was normal in appearance. The uterus measured 5.5 × 4 × 3 centimetres; the consistence was normal; peritoneal surface was smooth, glossy, free from adhesions, and moderately injected. The walls were not increased in thickness; cavity patent; endometrium soft, red, congested, markedly so in fundus of the organ. Covering the mucosa was a considerable quantity of thick, sticky, hæmorrhagic mucoid material.

Microscopical Examination.—The tissues studied were all hardened in ninety-five-per-cent. alcohol. The sections of hardened tissues were stained with hæmatoxylin and eosin, Van Gieson's picro-acid-fuchsine, and by Flexner's methylene-blue and Gram-Weigert staining methods.

Histological examination of the heart showed nothing beyond a slight degree of fragmentatio myocardii with dilatation of the capillaries and small veins, in both of which blood was seen, showing a leucocytosis of the multinuclear form. The sections from the lung, intestines, pancreas, and adrenals added nothing to the macroscopic findings. In addition to well-marked cloudy swelling and some more or less localized areas of fatty degeneration, the liver showed no other changes. The "lymphomata" commonly found in the liver of ordinary cases of typhoid fever were entirely absent, as were also any areas of focal necrosis. In the sections of the spleen some hyperplasia of the lymph cells was noted with considerable congestion. In the kidney, the epithelium of the convoluted tubules was markedly swollen, granular, and often devoid of nuclei; some of the epithelial cells were desquamated. Uterus: The superficial strata of epithelial cells were desquamated, the remaining cells being swollen and occasionally having lost their nuclei; the submucous and mucous tissues were considerably infiltrated with polymorphonuclear leucocytes and small round cells. The musculature presented a perfectly normal appearance.

Sections of the kidney and lung stained with Weigert's fibrin stain showed very few diplococci, limited to the small blood-vessels. In sections of the liver, ileum, and uterus stained by Flexner's method occasional bacilli (a few clumps in the liver) morphologically similar to the *Bacillus typhosus* could be distinguished; in the sections of the uterus the bacilli were only made out in the mucosa. Cocci were likewise detected in the mucosa of this organ.

Bacteriological Examination. — Agar and gelatin plate cultures were made from the blood of the heart, left lung, spleen, liver, gall bladder, kidney, operation wound, peritoneal cavity, and uterine cavity.

The cultures from the lung, operation wound, and peritoneal cavity remained sterile. From the heart's blood and spleen a pure growth of an oval or elongated coccus, sometimes in pairs, more often single, was isolated, corresponding in its tinctorial and cultural reactions to the diplococcus lanceolatus. It was pathogenic for rabbits both in subcutaneous and intravenous inoculations.

The plate cultures from the uterus contained two sets of colonies—about twenty-five to thirty small pinpoint, gray, translucent, discrete colonies in the depths of the medium. Under the low power they appeared finely granular, oval in form, with a regular outline; the second set consisted of seventy or eighty discrete pinhead-sized or slightly larger white colonies, which by transmitted light had a yellow tinge. The latter were made up of not very long, rather thick bacilli, while the former consisted of round cocci, sometimes single, grouped, or in short chains. Culturally the colonies made up of bacilli behaved as follows:

Slants of agar-agar: A profuse, slightly elevated, moist white growth with regular margins.

Blood serum: Growth was equally rapid to that on agar-agar, and presented a similar appearance.

Gelatin stab: Fine, somewhat scanty white growth along the line of inoculation. No liquefaction of the gelatin at the end of sixteen days.

Potato: A moist, glistening, scanty growth which was just perceptible to the eye.

Litmus milk: Very slight acidification of the medium, but no coagulation of the milk.

Alkaline bouillon: The medium became uniformly cloudy at the end of twenty-four hours.

Dunham's peptone solution: The appearances were identical with those of the bouillon. No indol reaction could be obtained.

Stab inoculations into glucose, lactose, and saccharose agar showed a white growth along the line of inoculation, but gave no evidence of gas formation.

Hanging-drop preparations from twenty-four-hour-old bouillon cultures contained bacilli which were actively motile. In cover slips from similar young cultures, stained by Pitfield's method, could be seen bacilli having ten to fifteen flagella (peritrichal arrangement). Tested with sera from known cases of typhoid fever, positive Widal reactions were obtained. Blood taken from the subject post mortem gave a positive Widal reaction with this bacillus as well as with other known cultures of the bacillus of typhoid fever.

Bacteriological Diagnosis — Bacillus typhosus (Eberth-Gaffky).—Pure growths of the typhoid bacillus culturally and morphologically similar to the above were isolated from the liver, gall bladder, and kidney. The coccus associated in the uterus with the typhoid organism was identified as the *Streptococcus pyogenes.*

Some hesitancy in the acceptance of the second case herein reported as an example of typhoid infection without any intestinal lesions very naturally finds expression with the cognizance of obvious difficulties, a complicating factor in the form of a history of probable typhoid fever about four months before. The remarkable viability of Eberth's bacillus in the human economy has been demonstrated by the observations of von Durgen (22), who, fourteen years and a half after the fever, found the bacilli in an abscess of the gall bladder; Buschke (23), who, eight years after the attack, cultivated typhoid bacilli from an abscess elsewhere; and Bruni (24), Sultan (25), Chantemesse (26), Parsons (27), Péan and Cornil (28), Chantemesse and Widal (29), Orloff (30), Klemm (31), Berg (32), Lockwood (33), and others, all of whom published cases of a more or less similar character. With a keen appreciation of the importance of this knowledge to such a possibility in this case, the probability nevertheless seems to us unlikely and remote in view of the wide dissemination of the bacilli in the liver, gall bladder, kidney, and, moreover, the most uncommon localization, in the uterus.

Apropos of polybacterial infections, this case is not without some interest: the presence of a diplococcus lanceolatus septicæmia, multiple foci of infection with the typhoid organism, and the association of the *Streptococcus pyogenes* and the *Bacillus typhosus* in the uterus.

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White Bole in the Treatment of Uterine Endotrachelitis.—Dr. Georgii (*Münchener medicinische Wochenschrift,* 1899, No. 14; *Deutsche Praxis,* May) recommends white bole (the bolus alba of the Ger. Ph.) for application within and around the cervix uteri, after thorough cleansing, the puncture of glandulæ Nabothi, etc.

THE EARLY RECOGNITION AND MANAGEMENT OF MALIGNANT DISEASE OF THE DIGESTIVE SYSTEM.*

By MAX EINHORN, M. D.

MALIGNANT diseases or growths of the digestive tract comprise the different types of cancer and sarcoma. As the latter are much less frequent, and usually present similar symptoms and consequences as the former, we will limit our remarks to cancer.

Cancer has always been recognized as the gravest of diseases, bringing with it the surest prospect of death. This axiom remains true even to-day, with the only difference that we must add, "if not interfered with surgically."

Surgery has indeed achieved its greatest triumphs in the removal of malignant diseases (tumors) in their early period of development, thus checking their further spread. Cancer of the breast and of the uterus are nowadays operated upon usually with a fair chance of non-recurrence of the growth.

These successful operations show that cancer is primarily a localized and not a systemic disease, as was formerly believed.

The more deeply the malignant growth is situated, the more difficult becomes its recognition and the less fruitful, even its surgical treatment. For cases of non-recurrence of malignant diseases of the digestive tract (with the exception of the anus and rectum) are as yet extremely few. This, however, is not the surgeon's fault, but rather that of the clinician. For, judging from analogy, malignant tumors, if discovered early enough, should be just as successfully removed from the digestive tract as elsewhere. It is, therefore, the just aim of the clinician to perfect his diagnostic ability with regard to malignant disease.

The stomach tube, and in conjunction with it the chemical analysis of the gastric contents have marked a decided advance in this direction; transillumination of the stomach may also, in favorable instances, be of some service. But we must concede that our methods are still comparatively crude, and as a rule permit us to recognize the malignant affection at a stage when it has already progressed to a considerable extent.

Before discussing the diagnosis it may not be amiss to make a few remarks with regard to ætiology.

The ætiology of cancer has been investigated by numerous scientists all over the world. But, unfortunately, the goal has not as yet been reached. Cohnheim's theory of the origin of tumors by embryonic cells which have remained dormant and at a certain period awake with renewed energy to attain gigantic development, is known to us all. A similar theory has been recently propounded by Ribbert, who assumes that a tumor develops from cells which accidentally have strayed from their place of origin and have been carried into some other tissue. Being foreign elements they extend their growth, not heeding the neighboring organs. Neither of the two theories has found general acceptance. Sporozoa have been believed by some writers (Pfeiffer, Hutchinson, Park, Metschnikoff) to be the cause of cancer. But these so-called parasites which have been discovered in cancerous tissue are most probably nothing else than degenerated and dried-up portions of cells, and nothing has as yet proved their real parasitic nature.

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* Read before the Fifth District Branch of the New York State Medical Association, at its fifteenth annual meeting, held in Brooklyn, May 23, 1899.

One factor which, though not directly concerned in the origin of cancerous tumors, creates a decided predisposition for their development, is repeated irritation. This ætiological factor has been established through numerous statistics, and it seems to me to be most pronounced in the digestive tract. Those places along the digestive canal which are subjected to the most marked mechanical irritations are also most often the seats of malignant disease. Thus the stomach, which receives the food in a comparatively coarse state and is exposed to great mechanical as well as chemical irritations, is, according to Virchow, the organ most often attacked with cancer. And here, again, the cardia, and especially the pylorus, are chiefly involved. The cardia is subjected to the friction of the food passing through it, while the pylorus is constantly irritated by the acid chyme as well as by some coarse particles of food which, by the churning motions of the stomach, are constantly carried toward that outlet without passing it. The small intestine, through which the chyme passes in its greater part in liquid form, is very seldom attacked with cancerous disease; while the large bowel, in which the fæcal matter assumes a more solid consistence, shows already a greater percentage of cancerous disease. These relations are best demonstrated by the statistical data given by our worthy president, Dr. J. D. Bryant. In a hundred and ten autopsies of patients suffering from intestinal cancer this writer found the neoplasm located six times in the small intestine, seven times in the cæcal and ileo-cæcal regions, nineteen times in the transverse colon, and seventy-eight times in the sigmoid flexure and rectum.

I shall now describe in a cursory manner under what conditions the diagnosis of cancer of the different parts of the digestive apparatus is justifiable:

I. *Œsophagus and Cardia.*—Gradually developing dysphagia and the presence of a stricture in the œsophagus, especially if a particle of tumor showing the characteristics of cancer has been brought up with the tube, or the above symptoms, with frequent small hæmorrhages, make the diagnosis of malignant disease positive.

II. *Stomach and Pylorus.*—With reference to the stomach and pylorus I * have suggested the following rules upon which to base a positive diagnosis of cancer:

1. If particles of tumor are found (in the wash water or in the tube) which under the microscope reveal the characteristic picture of a malignant growth.

2. The presence of a more or less large tumor with an uneven surface, belonging to the stomach and associated with dyspeptic symptoms.

3. The presence of a tumor associated with frequent hæmatemesis.

4. Constant pains, frequent vomiting, ischochymia, emaciation—all these symptoms being quite permanent and not extending over too long a period of time (six months to a year).

5. Tumor and ischochymia.

6. Emaciation, ischochymia, presence of lactic acid.

7. Constant anorexia and pains, not yielding to treatment, accompanied by frequent small hæmorrhages of coffee-ground color.

III. *Small and Large Intestines.*—For the small and large intestines the following points will prove of service in making the diagnosis of cancer:

1. If by abdominal or rectal palpation a tumor can be detected which is situated in the small or large bowel, and accompanied by symptoms of cachexia and disturbances of defæcation.

2. The presence of a tumor as just described, and the discovery of small particles of the neoplasm in the evacuation giving microscopically the appearance of a cancerous growth.

3. Gradually increasing disturbances of the bowel for a few months in a heretofore healthy person, accompanied by cachexia and symptoms of a beginning or already developed stricture of the bowels, and the presence of a small particle of growth in the stools giving, as above, microscopically, the picture of cancer.

After having thus summarized the conditions under which a positive diagnosis of malignant disease of the digestive system can be made, let us see how the diagnosis can be established early. There are no new points which I can suggest for this purpose. A thorough examination of the physical state of the patient—paying strict attention to all our usual methods in this direction—and a full knowledge of the history of the case, will permit us to discover malignant disease comparatively early. In quite a number of instances we shall not be able to make a positive diagnosis of cancer, but our suspicions of a malignant trouble will be aroused. Here frequent examinations and further observation of the case are of intrinsic value. Sometimes examination under narcosis may afford better results. In rare cases, in which a *probable* diagnosis of malignant disease can be made, an exploratory laparotomy with the view of establishing the diagnosis and performing a radical or palliative operation will be required.

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* Max Einhorn. *Diseases of the Stomach*, first edition, p. 273.

Having made the diagnosis of malignant disease, the question arises, What shall be done for the patient? The following may be given in brief as an answer applicable to the digestive system in general:

1. Whenever the tumor is accessible for operation, and there is the slightest hope of curing the patient, the complete extirpation of the growth should be performed.

2. If the tumor is not accessible for operation, or the entire removal of the malignant disease is practically impossible, palliative operations which serve to alleviate suffering and prolong life should be undertaken in cases requiring them.

3. Cases of malignant disease operated upon, as well as those without operation, require for their treatment and management a skillful physician, who is able to lessen suffering and nearly always also to lengthen life, even under the most trying conditions.

After these general statements, permit me to say a few words with regard to the special management of malignant disease in the different portions of the digestive tract.

Cancer of the œsophagus and cardia does not for the present permit of any radical operation. As soon as the diagnosis is positive and the dysphagia is such that the patient is not able to partake of sufficient liquid and semiliquid food, in order to maintain his weight, gastrostomy should be performed wherever feasible.

Cancer of the stomach and the entire intestinal tract should be operated (*i. e.*, removed), if discovered early enough. Practically the outlook for a cure after a radical operation of some portion of the intestinal canal becomes less encouraging the farther away from the anus the tumor is situated. Malignant disease of the pylorus can often be recognized quite early through the ischochymia which it usually produces. In these instances a laparotomy should be performed as soon as possible and the pylorus resected, with establishment of a new communication between stomach and duodenum if possible; if not, a gastroenterostomy alone should be made. The latter operation is in many cases of decided benefit, facilitating nutrition and rendering the pains less.

Cancer of the lesser curvature of the stomach or of the posterior wall is usually recognized quite late, rendering radical operations practically impossible. If cardia and pylorus are not involved, there will be no need of any operation, and the usual palliative remedies should be administered. The same may be said also of cancer of other portions of the stomach not involving either cardia or pylorus, in which a radical operation does not appear possible.

Cancer of the rectum can be recognized at an early stage, and resection of the neoplasm is here accompanied by brilliant results. If the tumor is located farther up in the large bowel or the small intestine the results of an operation are not so promising, for here the recognition of the growth is possible only at an advanced period, and by that time often adhesions with other organs and cancerous infection of the glands have already taken place.

Excision of the tumor and resection of the intestine in the neighborhood of the neoplasm, with an end-to-end anastomosis, should be practised whenever feasible. In case, however, total resection is impossible, an entero-enterostomy or enterocolostomy, or, if the cancer is situated in the rectum, a colostomy (artificial anus) will be of benefit. These operations are palliative in nature and prolong life, at the same time making it more comfortable. They are intended to allay the symptoms of obstruction and to carry the fæcal matter over a new route, not passing through, and thus not irritating the cancerous area. In some instances of inoperable cancer of the rectum curettage, followed by the application of the thermo-cautery, may be of benefit for a short period.

20 EAST SIXTY-THIRD STREET.

Therapeutical Notes.

Maragliano's Powders for Bronchorrhœa.—The *Riforma medica* for May 15th gives the formula as follows:

℞	Benzoic acid	30 grains;
	Tannin	15 "

M. Divide into five powders. One to be taken every two hours.

The Treatment of Nasal Hydrorrhœa.—M. Lermoyez (*Progrès médical*, June 10th) recommends that during the first week the patient should take daily about one two hundred and sixtieth of a grain of sulphate of atropine and a thirty-fifth of a grain of sulphate of strychnine. During the following week this dose may be doubled, and, says the author, even tripled in the third week. A cessation for ten days is then counseled, after which the course may be renewed.

A Lotion for Pityriasis Capitis.—The *Riforma medica* for March 29th gives the following formula:

℞	Resorcin	8 parts;
	Alcohol, Glycerin, } of each	15 "
	Rose water	120 "

M. S.: To be applied with friction.

Picot's Vesical Injection for Gonorrhœal Cystitis.—The *Riforma medica* for April 8th gives the formula as follows:

℞	Guaiacol	5 parts;
	Iodoform	1 part;
	Sterilized olive oil	100 parts.

M. From ten to twenty drops to be injected into the bladder once or twice a day.

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THE BURSÆ MUCOSÆ OF THE HIP, AND THEIR DISEASES.

This subject, which seems to have escaped general attention, has recently been studied by Dr. R. Zülzer (*Deutsche Zeitschrift für Chirurgie*, l; *Centralblatt für Chirurgie*, May 27th), who was led to make the investigation by observing a case of chronic subiliac bursitis which had been mistaken for one of fracture of the neck of the femur with excessive formation of callus. He has particularly studied the inflammatory affections of the bursæ in the region of the hip, which, being rather rare, have been too little regarded in diagnosis. He finds that the most important of these bursæ, from the practical point of view, are the one situated beneath the ilio-psoas muscle and the one found under the aponeurosis of the glutæus maximus, above the great trochanter. As these two are the most constantly present, they are the commonest seats of inflammatory hygromata, cysts, and abscesses.

The author has found published accounts of sixty cases of disease of the bursæ of the hip. In fourteen of them the subiliac bursa was inflamed, and in the rest the trochanteric bursa. In the opinion of the *Centralblatt's* writer, Dr. Meinhard Schmidt, of Cuxhaven, these histories are not all of equal value, for in many of the cases the correctness of the diagnosis does not seem to have been established beyond doubt; nevertheless, they are of service in clearing up these diseases from the clinical standpoint. It appears that subiliac bursitis has its seat under Poupart's ligament, near the ilio-psoas, whence a large swelling, reaching even to the middle of the thigh, may proceed. This swelling is smooth, generally more or less tender on pressure, and fluctuating as a rule, but if it is very tense it may appear to be solid. By its pressure on the crural nerves it may give rise to crural neuralgia, and by pressing on the great vessels it may occasion venous thrombosis. By interfering with the movements of the hip joint it may lead to the suspicion of dislocation. For the most part, the limb is in an attitude of abduction, outward rotation, and slight flexion, simulating that of morbus coxarius; but the absence of shortening, the presence of the great trochanter in the Roser-Nélaton line, and the freedom of the joint itself from tenderness serve to exclude hip-joint disease. In the majority of cases injury plays a part in the ætiology; more rarely the trouble is due to rheumatism, syphilis, gonorrhœa, or the like. The formation of these hygromata is extraordinarily slow, sometimes extending over several years.

Apart from their situation, the inflammatory affections of the trochanteric bursa are strikingly like those of the subiliac. They must be distinguished, not only from coxitis with its circumarticular abscesses, but also from extra-articular osteitis of the trochanter. It is to be remembered that the trochanteric bursa is often the subject of tuberculous disease, more frequently on the left side than on the right.

In these days of antiseptic treatment of wounds the diseases of the bursæ mucosæ may be dealt with more radically than was formerly the case. Puncture, compression, injections of tincture of iodine, etc., should not be entirely discarded, but the removal of the hygroma, together with its bursa, is a surer procedure.

THE NEW CORPS OF WOMEN NURSES FOR THE ARMY.

A circular recently issued from the surgeon-general's office gives the regulations governing the "female nurse corps" of the army. The corps is to consist of chief nurses, nurses, and reserve nurses. In every hospital to which women nurses are assigned one of them shall be a chief nurse. The women of the corps are all to be under contract. To obtain a contract, a woman must present a physician's certificate of her health, on an official blank form; she must be a graduate of a hospital training school for nurses which gives a thorough professional education, including at least two years' residence in the hospital; and she must be indorsed by the person who is at the time of her application the superintendent of her training school and also by the superintendent under whom she was trained. It is specified that these requirements may be waived wholly or in part in the cases of "dietists," women who are proof against yellow fever, and women who have rendered satisfactory nursing service in the army during the Spanish-American war. A "dietist" is a nurse assigned to supervise the preparation of food for patients who are unable to eat the usual ration, or to prepare it herself, besides performing such other duties as may be assigned to her by the chief nurse of her hospital.

A nurse is first taken on probation, and she signs a contract to serve for at least a year, unless sooner discharged, but "immunes" needed for special duty are not required to sign for any definite length of time. If a nurse is found unsatisfactory, her contract may be annulled; it will not be annulled at her own request save for reasons satisfactory to the surgeon-general; and the contract of a nurse on duty in the United States whose service has been entirely satisfactory will not be annulled except by authority of the surgeon-general.

For service in the United States a nurse will be paid $40 a month, and in Cuba, Puerto Rico, the Hawaiian Islands, or the Philippines, $50 a month. If fewer than five nurses are serving in a hospital, the chief nurse does not receive increased pay; if five or more, but fewer than ten, are serving together, the chief nurse receives $10 a month additional; if ten or more are on duty together, the chief nurse receives $25 a month additional. A nurse is entitled to one ration in kind. She must provide herself with the prescribed uniform, and have it washed and ironed at her own expense. A nurse is entitled to receive medical attendance and care when she is sick, but only at the hands of medical officers and nurses of the army.

When a vacancy in the grade of chief nurses requires to be filled, it will be filled by promotion from the grade of nurses. The position of chief nurse is defined to be equivalent, so far as army conditions permit, to that of a superintendent of nurses in a civil hospital. Reserve nurses will be appointed from among those who have served acceptably as nurses for at least four months. Each reserve nurse will sign an agreement to enter upon active service wherever she may be required to do so, and to report by letter to the surgeon-general on the 1st of January and the 1st of July of each year, and at other times if required. She will wear the badge of an army nurse, but draw pay only when on duty. She will be dropped from the reserve list on reaching the age of forty-five years, or on discontinuing the practice of her profession for a period of five years, or for incapacity, or for any other good reason.

This scheme strikes us as, on the whole, very promising. We should like to see the nurses better paid, and we can not escape the conviction that in times of peace the remuneration offered by the government will hardly tempt into its service women of the class required, although in times of war our patriotic girls will throng to the soldiers' aid. Doubtless the surgeon-general has done the best he could with the resources at his command, but we hope that congress will enable him to do better in the future. To be of enduring usefulness, a nursing corps should be permanent in its organization. Fortunately, permanence is substantially provided for in the establishment of a body of reserve nurses. To be a member of that body, privileged to wear the army badge, will be gratifying and inspiring to many a high-minded young woman. Would that the contract surgeons were adjudged entitled to some such recognition!

THE BACILLUS PYOGENES CLOACINUS.

THE list of pathogenic micro-organisms is constantly growing. The latest organism of this sort that we have seen mentioned is one found in sewage and hence named by Dr. E. Klein (*British Medical Journal*, July 8th) the *Bacillus pyogenes cloacinus.* This micro-organism is found to be pathogenic when injected subcutaneously into guinea-pigs in minute doses. Ordinarily nothing more than a local abscess is the result, and then the bacilli are found only in the contents of the abscess. In many instances, however, the effect is diffused. Besides the abscess at the site of the injection, there are produced purulent peritonitis, with pyogenic membranes covering the liver, the spleen, and the kidneys; purulent pericarditis, with the pericardial sac filled with grumous pus; and purulent pleurisy, with pyogenic membranes and solid lymph in the mediastinum and the lungs of a deep color and partially collapsed. When these distant lesions occur, the bacilli are found in the blood, particularly that of the heart and that of the spleen.

Minute doses injected into the peritoneal cavity of a guinea-pig lead to death in from twenty to twenty-four hours. On post-mortem examination, there are found purulent peritonitis, with pyogenic membranes on the liver, the spleen, the diaphragm, and the kidneys, and inflammation of the small intestine. Occasionally there are also pleural and pericardial exudates. In the mouse, small doses give rise to septicæmia, but the bacillus has no pathogenic effect on rabbits. Presumably it is not yet known what its action is on the human subject; it is to be hoped that we never shall know.

Dr. Klein states that, culturally, his bacillus resembles to a certain extent Löffler and Schütz's *Bacillus suisepticus*, but differs from it in its action on rodents, and is clearly distinct from Passet's *Bacillus pyogenes fœtidus* and from Bolton's *Bacillus pyogenes soli.*

A NOTABLE CASE OF STRYCHNINE POISONING.

IN the *British Medical Journal* for July 1st Mr. Lancelot H. D. Hale, M. R. C. S. Eng., L. R. C. P. Lond., of Southsea, reports the case of a woman whom he was called to attend for an injury of the head produced by a fall. He found her unconscious, but it was soon evident that her injury, a scalp wound, was not the cause of her symptoms. It was ascertained that she had swallowed by mistake six drachms of tincture of nux vomica, containing three quarters of a grain of strychnine. She died in two hours, in the third paroxysm of general convulsions, after having thrice lost consciousness. The tube of the stomach pump could not be passed, owing to the attempt bringing on convulsive action. Apomorphine, in two subcutaneous injections of an eighth of a grain, failed to produce vomiting. The administration of chloroform, to enable Mr. Hale to introduce the stomach tube, caused such severe syncope that he had to desist. The woman's pupils were widely dilated. The tincture swallowed was that of the new *British Pharmacopœia*.

"GARDEN TRUCK" AND THE PREVALENCE OF CANCER.

Ever and anon somebody denounces the tomato as a breeder of cancer. Dr. Behla, of Luckau (*Centralblatt für Bakteriologie und Infektionskrankheiten*, xxiv, 21–24; *Centralblatt für innere Medicin*, July 8th), deals with the products of the garden more generously. He intimates in general terms that the people of Luckau, and especially of the suburban quarter called Kalau, owe the prevalence of cancer among them to their free consumption of fresh vegetables, and particularly of salads. He states that a myxamœba termed *Plasmodiophora brassicæ*, which frequently gives rise to an epithelial swelling of the roots of the cabbage, is very abundant in Luckau.

AN ANTITOXINE TREATMENT OF ACUTE ALCOHOLISM.

If Dr. L. Maramaldi, of Naples (*Giornale internazionale delle scienze mediche*, 1898, No. 17; *Centralblatt für innere Medicin*, July 8, 1899), is correct, it is practicable to generate in the blood some substances which will serve as antitoxines to other than the "morbid" poisons. Such a substance he thinks he has formed by using progressively increasing doses of alcohol on the dog. The serum of such a dog he has used successfully in saving other dogs from the effects of doses of alcohol that would otherwise have proved fatal. If his experiments are corroborated, perhaps many an old drunkard may yet be made to serve a good purpose.

AN EXTREMIST IN CLEANLINESS.

It is almost always a layman who carries a matter of medical doctrine to the extreme. The Paris correspondent of the *Lancet* speaks of an amusing instance in that journal for July 8th. A Parisian traveling on a railway train refused to give his ticket into the hands of the railway company's official. When arraigned for having thus broken the law, he pleaded that he had been unwilling to put into his pocket a ticket which would be contaminated with microbes from the inspector's hands, they were so dirty! Nevertheless, he was fined a franc.

THE OVERCROWDING OF CARS.

The enormous overcrowding of cars in New York is a product of several factors. It is difficult to see, taking into consideration the rapidity with which the cars in our principal streets follow one another, how any material increase in car accommodation could be effected without reserving all the thoroughfares for the exclusive use of cars. But one avoidable cause of the overcrowding lies in the habit of the American people of crushing into a car to save themselves the trouble of walking say four or five blocks. If the innumerable persons who have only four or five blocks to travel, and who presumably have no real occasion for any frantic hurry, would only walk the distance instead of "jumping on to a car," not only would there be much less overcrowding of public conveyances, but there would also result a diminution in dyspeptic and neurotic conditions, which are largely induced by the appalling and wholly unnecessary "hustling" in this and other cities. In nine cases out of ten "hustling" is only another form of laziness. The horse that makes the greatest showing does not always cover the greatest extent of ground in the shortest time.

THE REMOVAL OF GARBAGE.

Our present method of removal of garbage is a blot on the administration of the city of New York. Since we have practically no alleyways and back entrances, wherefrom regular dust bins could be emptied, we presume that the garbage can placed out on the sidewalks is inevitable. But why on earth can not these cans be emptied during the night, as the dust bins are emptied in European cities, instead of in the full light of day, to the intense annoyance of the public?

THE LUNGS OF A CITY.

A large city, like a human being, needs lungs. The lungs of a city are its open spaces where trees and shrubs inhale carbonic air and breathe out oxygen, thus reestablishing the balance for animal and vegetable nature. Beautiful as is Central Park, New York as a whole is inadequately supplied with lungs. The city has extended enormously within the past few years, and that is an excuse for the errors of the past; but what shall we say about the future? Up Amsterdam Avenue are tracts of land on either side, even yet a primitive woodland. These lands are for sale, presumably for building purposes. Surely, before the fullness of citydom reaches this district, the city should secure to itself park space, instead of waiting until the growth of the city in that direction renders it impossible without paying "fancy" prices in order to establish another Central Park. There is a "coefficient of life" possible for a given area of ground. As the animal increases, the vegetable decreases *pro rata,* and *vice versa.* New York has made many mistakes as regards its possible future development. Let it take care that it does not add yet one more, and that a very serious one, to the list! Let it secure patches of woodland wherever it can within its boundaries, and so get its necessary "lung power" cheap!

THE DESTRUCTION OF MOSQUITOES WITH KEROSENE.

An interesting experiment confirmatory of the efficacy of the plan proposed by Mr. Howard, of the United States Department of Agriculture, for exterminating those vexatious vehicles of malaria, mosquitoes, was recently made in England, as we learn from the *British*

Medical Journal for July 8th. Five drops of kerosene, added to a bucket of water estimated to contain between four and five hundred larvæ, killed them all within an hour, and a teaspoonful killed within a few hours the many thousands contained in the water of a tank of nearly three hundred cubic feet capacity.

THE CENTRAL COLLEGE OF PHYSICIANS AND SURGEONS OF INDIANAPOLIS.

We regret to see it stated in one of the Indianapolis newspapers that there is in the faculty of this school a disagreement that has led to the resignation of some of the professors, and threatens to result in further resignations. Beyond the newspaper reports, we know nothing of the merits of the controversy; we simply deplore it on general principles.

RED CROSS PROTECTION NEEDED IN NEW YORK.

There has been reported in the newspapers an outrageous assault upon a physician for performing his professional duties to an injured non-union motorman during the recent strike in Brooklyn. The person of the physician has always been regarded by most people, even the most depraved, as inviolable when in the discharge of his duties, and it is significant of something radically wrong when men who profess to be respectable workingmen show themselves more devoid of humane instincts than the professional thieves, highwaymen, and murderers of old time. Such an act will rouse more bitterness and animosity against the race of "strikers" than all their other outrages put together.

THE RÖNTGEN RAYS IN THE TREATMENT OF SYCOSIS AND FAVUS.

These diseases are to be added to the list of those in which the Röntgen rays have been thought to be of benefit. At a recent meeting of the Imperio-royal Society of Physicians of Vienna (*Gazette hebdomadaire de médecine et de chirurgie,* June 15th) Dr. L. Freund showed three patients in whom he had cured both diseases (the account reads as if each patient had had them both) in from seven to thirteen sittings. The hair fell out and the cutaneous inflammation thereupon subsided. Dr. Kaposi did not believe, he said, that the cure would prove permanent in the case of favus, for the fungus was not so situated as to be affected by the rays.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the week ending July 22, 1899:

DISEASES.	Week ending July 22.	
	Cases.	Deaths.
Typhoid fever	30	8
Scarlet fever	93	10
Cerebro-spinal meningitis	0	8
Measles	203	13
Diphtheria	161	42
Croup	4	6
Tuberculosis	163	154
Small-pox	3	0
Chicken-pox	9	0

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending July 22, 1899:

Small-pox—United States.

Oakland, Cal	June 3–24	3 cases,	1 death.
Stamford, Conn	July	1 case.	
Washington, D. C	July 12	Last 2 cases discharged.	
Montgomery County, Ga	July 12	9 cases.	
Louisville, Ky	July 4–13	1 case.	
Baltimore, Md	July 1–15	1 “	
Boston, Mass	July 8–15	1 “	
Sabine Pass, Texas	July 8–15	8 cases.	
Almira, Wash	July 3	9 “	
Spokane, Wash	July 1–8	3 “	
Tacoma, Wash	July 1–8	2 “	

Small-pox—Foreign.

Budapest, Hungary, Austria	June 13–July 2	2 cases,	1 death.
Vienna, Austria	June 24–July 1		1 “
Antwerp, Belgium	June 17–July 1	4 “	1 “
Ghent, Belgium	June 27–July 1	1 case.	
Guayaquil, Ecuador	June 3–10	1 “	
London, England	June 27–July 1	2 cases.	
Cairo, Egypt	June 3–17		4 deaths.
Nantes, France	June 1–30	1 case.	
Athens, Greece	June 27–July 1	22 cases,	9 “
Bombay, India	June 13–29		6 “
Calcutta, India	June 1–10		1 death.
Mexico, Mexico	July 2–9	7 “	9 deaths.
Nuevo Laredo, Mexico	July 1–8		2 “
Moscow, Russia	June 10–17	16 “	3 “
Odessa, Russia	June 17–24		2 “
St. Petersburg, Russia	June 17–24	13 “	2 “
St. Petersburg, Russia	June 24–July 1	16 “	3 “
Warsaw, Russia	June 3–24		4 “
Straits Settlements, Singapore	May 1–31		13 “
Straits Settlements, Singapore	June 3–10		4 “
Constantinople, Turkey	July 9–19		4 “

Yellow Fever—Foreign.

Bahia, Brazil	June 17–July 1	65 cases,	31 deaths.
Barranquilla, Colombia	June 10–24	3 “	3 “
Panama, Colombia	June 27–July 10	17 “	7 “
Puntas Arenas, Costa Rica	July 10	Reported.	
Santiago, Cuba	June 10–17	4 cases,	1 death.
Mexico, Mexico	July 6–13		20 deaths.
Vera Cruz, Mexico	June 1–30	471 “	191 “
Vera Cruz, Mexico	June 30–July 6	96 “	24 “
San Salvador, San Salvador	July 1	1 case from Guatemala.	

Cholera.

Bombay, India	June 13–24		1 death.
Calcutta, India	June 3–10.		10 deaths.
Madras, India	June 3–9		1 death.

Plague.

French Ivory Coast, Africa	June 7		100 deaths.
Alexandria, Egypt	June 30	42 cases to date.	No deaths.
Bombay, India	June 13–30		53 deaths.
Calcutta, India	June 3–10		21 “
Tamsui, Formosa, Japan	May 3–24	118 cases,	225 “
Bushire, Persia		Present.	
Straits Settlements, Penang	Jan. 1–June 9	20 cases,	17
Straits Settlements, Singapore	May 1–31		4

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 15 to July 22, 1899:*

Agramonte, Aristides, Acting Assistant Surgeon, United States Army, will report to the medical officer in charge of the yellow-fever hospital, Santiago Bay, for temporary duty as bacteriologist.

Bache, Dallas, Colonel and Assistant Surgeon-General, United States Army, is detailed as a member of the board of medical officers appointed to meet in Washington, by S. O. 61, *vice* HALL, WILLIAM R., Major and Surgeon, United States Army, relieved.

BALCH, LEWIS, Major and Surgeon, United States Volunteers, will proceed to Amaro to examine its suitability for a camp site, in case circumstances should render it necessary to remove the troops from Sagua Barracks.

BOWEN, WILLIAM, Captain and Assistant Surgeon, United States Volunteers, is assigned to the Twenty-seventh Infantry, United States Volunteers, and will proceed to Camp Meade, Middletown, Pennsylvania.

BRATTON, THOMAS S., Captain and Assistant Surgeon, will proceed to Camp Meade to accompany the Nineteenth Infantry to Manila.

EBERT, R. G., Major and Surgeon, United States Army, will make the examination and report, and supervise the completion of volunteers to be mustered out at Vancouver Barracks, Washington.

FISHER, HENRY C., Captain and Assistant Surgeon, United States Army, will report to the surgeon in charge of the First Reserve Hospital for duty.

GRISWOLD, RICHARD S., First Lieutenant and Assistant Surgeon, United States Volunteers, is assigned to the Twenty-sixth Infantry, United States Volunteers, and will proceed to Plattsburg Barracks, New York.

KEAN, JEFFERSON R., Major and Surgeon, United States Volunteers, is detailed as a member of the board of officers convened by Par. 1, S. O. 114, *vice* BROWN, IRA C., Major and Surgeon, United States Volunteers, relieved on account of sickness.

KENDALL, WILLIAM P., Major and Surgeon, United States Volunteers, in addition to his other duties, is assigned to temporary duty to organize wards in the Cuartel de Infanteria, 73, which wards will be supplementary to the First and Second Reserve Hospitals.

SUMMERALL, W. B., Acting Assistant Surgeon, United States Army, will report to the officer in charge of the military hospital at Matanzas, Cuba, for duty.

The following-named medical officers are detailed to represent the Medical Department of the Army at the eighth annual meeting of the Association of Military Surgeons of the United States, to meet in Kansas City, Missouri, from September 27 to September 29, 1899: ALDEN, CHARLES H., Colonel and Assistant Surgeon-General, United States Army; TORNEY, GEORGE H., Major and Surgeon, United States Army; POWELL, JUNIUS L., Major and Surgeon, United States Army.

The following-named medical officers of the United States Army will proceed to the Philippine Islands on the transport *City of Para:* FLAGG, C. E. B., Captain and Assistant Surgeon; FAUNTLEROY, P. C., First Lieutenant and Assistant Surgeon; DUTCHER, BASIL H., First Lieutenant and Assistant Surgeon; DEAN, ELMER A., First Lieutenant and Assistant Surgeon; GREENLEAF, H. S., First Lieutenant and Assistant Surgeon; RASH, OTWAY W., First Lieutenant and Assistant Surgeon; DE KRAFT, CHASE, Acting Assistant Surgeon; SCHULTZE, ERNEST C., Acting Assistant Surgeon; LE HARDY, JULIUS C., Acting Assistant Surgeon; VAN DUSEN, JAMES, Acting Assistant Surgeon; HARRIS, STEVENS T., Acting Assistant Surgeon; ROBINS, ROBERT F., Acting Assistant Surgeon; SEAMAN, GILBERT E., Acting Assistant Surgeon; GARLINGTON, J. C., Acting Assistant Surgeon.

The following transfers and assignments of members of the Medical Department are announced: DARLING, J. B., Acting Assistant Surgeon, United States Army, will report to the commanding officer, Third United States Infantry, for duty with one of the battalions of that regiment in the field; HARTNETT, EUGENE H., First Lieutenant and Assistant Surgeon, United States Army, will report to the commanding officer, Twenty-second United States Infantry, for duty with that regiment, relieving KULP, JOHN S., Captain and Assistant Surgeon, United States Army, who will report to the surgeon in charge of the First Reserve Hospital for duty in connection with the supplementary wards now being established in the Cuartel de Infanteria, 73; EDIE, GUY L., Major and Brigade Surgeon, United States Volunteers, will report to the commanding general, Second Division, Eighth Army Corps, for duty in charge of the field hospital of that division, relieving ADAMS, F. J., Major and Surgeon, First Montana Volunteer Infantry; BANTA, WILLIAM P., Acting Assistant Surgeon, United States Army, will report to the commanding officer, First South Dakota Volunteer Infantry.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending July 20, 1899:*

BAILHACHE, PRESTON H., Surgeon. To proceed to New York for special temporary duty in the Purveying Depot.

BANKS, C. E., Surgeon. Relieved from duty at Washington, D. C., and detailed as Medical Purveyor of the service at New York.

GEDDINGS, H. D., Passed Assistant Surgeon. To proceed to New York for special temporary duty.

ROSENAU, M. J., Passed Assistant Surgeon. Detailed as inspecting quarantine officer for the Island of Cuba.

FRICKS, L. D., Assistant Surgeon. To proceed to the Brunswick Quarantine Station, Brunswick, Georgia, for special temporary duty.

MCADAM, W. R., Assistant Surgeon. Granted seven days' extension of leave of absence.

RICHARDSON, T. F., Assistant Surgeon. Relieved from duty at the Immigration Depot, New York, and directed to proceed to Cienfuegos, Cuba, for temporary duty.

THORNBURY, F. J., Assistant Surgeon. To proceed to Point Pleasant, New Jersey, for special temporary duty.

BURFORD, R. E. L., Sanitary Inspector. Granted leave of absence for seven days.

Appointment.

WEEKS, ALANSON, of Michigan, to be Acting Assistant Surgeon, United States Marine-Hospital Service, for duty at the port of Chicago, Illinois.

Changes of Address.—Dr. J. P. Chartrand, from Cohoes, New York, to No. 135 Third Street, Troy, New York; Dr. F. Phelan, to No. 131 Third Street, Troy, New York; Dr. Waldo H. Sanford, from Brewster, New York, to Saratoga Springs, New York.

Births, Marriages, and Deaths.

Died.

CHAMBERLAIN.—In Jamaica Plain, Massachusetts, on Tuesday, July 18th, Dr. Cyrus N. Chamberlain, of Andover, Massachusetts, in the seventieth year of his age.

LYONS.—In Boston, on Monday, July 17th, Christopher P. Lyons, infant son of Dr. Christopher P. Lyons.

STURGIS.—In Boston, on Monday, July 17th, Dr. Russell Sturgis, Jr.

WOOD.—In Clinton, Louisiana, on Monday, July 17th, Dr. Frederick D. Wood, in the forty-sixth year of his age.

Letters to the Editor.

A CASE OF QUADRUPLETS.

UNION MILLS, INDIANA, *July 7, 1899.*

To the Editor of the New York Medical Journal:

SIR: If the rarity of four babies at one birth makes the following case worthy of mention, readers of the *Journal* are welcome to the trouble it costs me to write it.

On June 25, 1899, Mr. James P. came to my office for medicine for his wife, stating that she was about six months pregnant, and for two days had been very nervous and having pain in the back. I gave him a small bottle of fluid extract of black haw, with directions for his wife to take a teaspoonful in hot water every three hours; also some tablets of triple bromides, seven grains and a half each, one to be taken every four hours. I instructed him to have her remain in bed for a day or two and report to me the following day.

The next day I was called to the home of her mother, to which she had come on a visit in the morning. I arrived there a few minutes after three. Immediately her mother called my attention to a protruding cord. I *hastily* washed my hands, and in a very few minutes extracted, feet foremost, a living female child which weighed twenty-nine ounces. Only a glance at the abdomen was needed to tell me I was not yet through. A little before five o'clock another female child, which weighed twenty-six ounces, was extracted feet foremost. This child gasped faintly—only enough to show that life was present. The mother claimed my attention for a few minutes, and when I turned to the child it was dead. I made some efforts to resuscitate it, but to no avail. Upon further examination of the mother, I found a head presenting. Later the occiput was found to be to the right and posteriorly. This child was coming slowly and I took time to go down to the hotel (one block away) and eat my supper. At a little before seven this child was born, a dead female of twenty-six ounces. Upon further examination I found a shoulder presenting. I tried to manipulate it so as to bring the head down first, but could not; the child was easily turned and the feet were brought down, and the fourth female child, weighing twenty-three ounces, was extracted dead. The first child lived about forty-three hours and then died, in spite of cotton, cod-liver oil, and an extemporized incubator. During the labor the mother was given eighteen grains of quinine; no other medication was employed save two hypodermics of ergot, which were given to stop a hæmorrhage which followed the expulsion of the placenta.

The birth was a premature one; I pronounced the gestation to be advanced between six and seven months. The nails were just beginning to show on the great toes and the fingers, the hair on the head was beginning to show, and the eyebrows were nearly visible.

On examining the woman the first time I found the bag of waters broken, but with each of the succeeding fœtuses I had to rupture the membranes, which were very strong. The placenta, which I did not weigh, was not large, and the cords were inserted probably two inches apart.

The peculiar feature is four babies, all of the same sex and so equally developed, their respective weights being twenty-nine, twenty-six, twenty-six, and twenty-three ounces. The mother is only eighteen years and six months old, and I never attended a confinement where the mother had an easier labor. Of course the children were small, but I attributed the lack of suffering partly to the black haw and bromides given in the fore part of the day. C. V. LEEDY, M. D.

TETANUS AND INFECTED CARTRIDGES.

UTICA, N. Y., *July 15, 1899.*

To the Editor of the New York Medical Journal:

SIR: I notice by the lay press the unusual number of cases of tetanus following gunshot wounds inflicted by blank cartridges. It seems to me that the infection is primary, due to the wad or packing, and not a secondary infection resulting from dirt. In the summer of 1881 or 1882 there were numerous cases of tetanus following the same injuries and inflicted by the same weapon, the blank cartridge and toy pistol. The wad of the cartridge is earth and paper. It would be very interesting to trace the source of the earth used in their manufacture.

I am of the opinion that it comes from some place unusually infected with tetanus, like certain spots on Long Island, for instance.

It could be demonstrated by cultures from the wads by Kitasato's method. Check experiments with earth from the original source would complete the chain of evidence, provided the manufacturers would say where they got it. A scientific investigation would do much to put a stop to the crude and ignorant deduction that gunshot wounds of the palm are more prone to tetanus than other wounds in other localities, and that the rusty nail is largely to blame.

I hope there will be some work done in accordance with this suggestion. WILLIAM STUMP, A. M., M. D.

A NEW PREPARATION OF QUININE.

AMERICUS, GA., *July 8, 1899.*

To the Editor of the New York Medical Journal:

SIR: It is well, I think, to inform the profession concerning an article of marked merit when it can be honestly done; hence this letter.

I have given quinoliv (a tasteless powder of quinine sulphate with olive oil) a thorough trial with a number of patients who have been suffering with malarial fever, and in every instance the results have been highly satisfactory.

I find a great many cases where sulphate of quinine can not be taken, on account of many unpleasant effects upon the stomach and nervous system, such as nausea, tinnitus aurium, etc., but in all such cases quinoliv has been substituted with the happiest results. In some instances twice the quantity was given without any unpleasant effects whatever. I have in mind one particular case of which I will give the history in part:

Miss K. was taken sick on June 20th with remittent fever. I first tried the plain sulphate of quinine, but, on account of nausea and nervousness produced, I discontinued it on the third day of her illness and began the administration of quinoliv, seven grains and a half every four hours, without the bad effects of other preparations of quinine.

After July 5th the fever abated, and the temperature curve was downward from about the seventh or eighth day. I administered seven grains and a half throughout the entire course of the fever, every three or four hours, without the slightest inconvenience to the patient. William S. Prather, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XXIX.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(Continued from page 136.)

Failure to give Proper Instructions.—Nor does the physician's liability necessarily end when he has treated the patient with all due skill and care, exercising proper judgment and using the most approved methods of treatment.

If the character of the injury or disease is such that any particular method of nursing is necessary to avoid an aggravation of the injury or prevent a relapse, or if the patient's welfare requires that he shall observe certain rules or practices, or shall avoid any particular indulgence, the physician is bound to inform the nurse or patient, or both, as the case may require, of the condition he wishes to avoid, and give them proper instructions as to the care and treatment best calculated to conduce to a cure. In the case of Carpenter *vs.* Blake the court said: "If, in case of dislocation of the elbow joint, it is enough for the physician to replace the bones, and to put the arm on a pillow, with the part below the joint at a right angle with that above it, and direct the application of cold water, it would seem to be proper, if not necessary, that the attending surgeon should inform the patient, or those having charge of him or her, of the necessity of maintaining that position; and if there is a tendency in the limb to become straight, or if in consequence of the severity of the injury to the ligaments about the joint there is great pain, which renders the patient nervous and restless, thus increasing the tendency of relaxation, or to straighten, and, as a consequence, to stiffen the joint, the danger should be disclosed, to the end that all proper precaution may be taken to prevent it. It is insisted that these dangers were imminent, and yet no word was given. This was, in my judgment, culpable negligence; much of the suffering the plaintiff has undergone, and much of the loss she has sustained, might have been prevented had the defendant done what it was clearly his duty to do, if he knew the consequences which might result from redislocating the joint or straightening the arm." *

In the case of Beck *vs.* The German Klinik *et al.*, † the evidence showed that the plaintiff, who had broken his leg, employed the defendants, viz., the German Klinik, an incorporated hospital, and certain physicians and surgeons members of that concern, to treat him; that the methods and appliances which were used in the treatment of the case were such as were used and approved of by physicians who were possessed of and who exercised at least the average skill of the medical profession as a body at that time; and that the treatment seemed to have been proper and skillful, and the leg, when the splints and bandages were removed, appeared all right. The evidence also showed that after the gypsum bandages, used to keep the bones in place, were removed, the defendants directed the plaintiff to use his limb and to walk with crutches, but that they gave him no further directions as to the manner or extent of such use. The evidence further showed, or tended to show, that the broken bone had not well united, either because of improper treatment or because of its diseased condition, and that when the bandages were removed, or soon thereafter, the limb at the wounded part was crooked, and that it became necessary to perform an amputation. An expert witness testified upon examination of the limb after amputation, that there was a diseased condition of the bone which might have been caused by "a splinter or a muscle getting between the bones; and in that case walking would irritate and produce a tendency to disease." He further said: "I would instruct my patient not to walk on a leg I found not united." "The least weight of the foot, after patient commenced walking, would tend to separate at the top" (pointing to a portion of the bone, having the amputated limb before him). "If the bone, when set, confined in its apparatus for eight weeks, came out in that crooked condition or form, then the tendency of the use of that limb in walking would impair its efficiency and would induce disease." The court, in commenting upon the legal effect of the evidence above given, said: "The jury were authorized to find that plaintiff had no correct instructions as to the proper care and use of his wounded leg; and that he had wrong instructions which directed him to use his leg; that the diseased condition was caused or aggravated by the use of the leg, which the defendants directed, and that with proper instructions, which we will presume plaintiff would have followed, his leg would have been saved, or at least the disease of the bone would have been ameliorated and he would have escaped much suffering." "Defendants may have exercised proper care and used proper skill in all things, yet, under the law of the case, if they omitted to give plaintiff proper instructions for the care and use of his wounded leg they were rightly held liable by the jury. As we have said, the jury were authorized to find for plaintiff under the evidence on the ground of defendants' negligence by omission to discharge their duty to instruct plaintiff as to the care and use of his injured leg."

In a recent Ohio case ‡ the trial judge, in instructing the jury regarding this duty of the physician, stated the law very clearly; he said: "It is the duty of the surgeon, when he takes charge of a case, such as a broken femur bone, to give his patient all necessary and proper instruction as to what care and attention the patient should give his broken limb in the absence of the surgeon, and the caution to be used in the use of the limb before it is entirely healed."

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* Carpenter *vs.* Blake, 60 Barb., 488.

† Beck *vs.* German Klinik *et al.*, 78 Ia., 696, 43 N. W. Rep., 617, 7 L. R. A., 566.

‡ Tish *vs.* Welker *et al.*, 4 Ohio Leg. News, 433.

The case in which this instruction of law was required by the facts at issue happened to be one in which the patient had suffered from a fracture of the femur—hence the narrowness of its scope; the law applies equally well, however, whether the patient be suffering from a fractured femur or a fractured rib, or whether the affliction be typhoid fever or mumps. Proper and necessary instructions are in all cases required by the law.

Liability for Improperly Discontinuing Attendance.—In an earlier chapter of this work the implied contract of the physician that he will continue his attendance upon the patient so long as his condition shall require it has been considered. Should a physician fail to pay due regard to this obligation and cease his attendance at a time when by the exercise of an honest and properly educated judgment he might have determined that his services were still required, he will be liable to an action for damages resulting therefrom.*

Justice Pryor, in an instruction to the jury, expressed the law very clearly and forcibly. He said: "The defendant was called to treat the plaintiff for a miscarriage. He visited her the day of her misfortune and the two succeeding days; but he never came afterward. It is not denied that when he ceased his visits she was not cured of her malady. His retainer was for no definite period. Upon this state of facts the question is, Did the defendant violate his duty to the plaintiff by his abandonment of her? When a physician engages, as here, to attend a patient without limitation of time, he can not cease his visits except, first, with the consent of the patient; or, secondly, upon giving the patient timely notice, so that he may employ another doctor; or, thirdly, when the condition of the patient is such as no longer to require medical treatment, and of that condition the physician must judge at his peril. Here it is not shown that the plaintiff was no longer in need of medical attention; so that the defendant had no right to discontinue his attendance, unless either the plaintiff consented or he gave her proper notice; and if he left her without such consent or such notice he was guilty of grave professional negligence. The defendant swears that at his last visit he notified the plaintiff that he was going out of town, and indicated to her a physician who would attend her in his stead. If this statement be true, the defendant's absence is excused, and you must exonerate him from this imputation of neglect. But the defendant's story is denied by the plantiff's witnesses, and their testimony tends to prove that he abandoned her without leave and without notice." †

Upon the law governing this liability there seems to be no question or disagreement, it is upon the facts that the parties conflict, the defendant usually testifying that he notified the patient of his inability to render further services; the patient, on the other hand, testifying that no such notice was given.*

In the cases considered above the services of the physicians were rendered at the patients' homes, but the principle of law controlling is the same when the services are rendered by the physician at his office. Of course, if the patient comes to the office of a physician from whom he has received proper treatment and then fails to return for further treatment, in consequence of which he suffers injury, the physician is not liable to an action for such injury.† But if a physician who is receiving and treating a patient at his office fails through his own fault or neglect to meet the patient at the usual or proper time and place, whereby the patient suffers injury, then the physician is liable in damages to the amount of the injury so sustained.

(*To be continued.*)

Pith of Current Literature.

Aspirin, a New Salicyl Preparation.—Dr. Karl Witthauer, of Halle (*Heilkunde*, April; *Deutsche Medizinal-Zeitung*, May 15th), describes aspirin as a compound of acetic and salicylic acids, forming white crystalline needles readily soluble in ordinary solvents. He has given it in doses of fifteen grains four or five times a day in all affections in which the salicyl preparations are employed, and has found it equally effective with sodium salicylate and thus far free from any unpleasant effect on the heart or stomach. It was astonishing, he says, how well the appetite was sustained even in patients who had to take aspirin for a long time. Upon this statement the *Zeitung's* writer comments as follows: It works slowly, then, in many cases.

Extract of Corpora Lutea as a Medicine.—The Paris correspondent of the *Lancet* for July 15th says that at the meeting of the Society of Biology, held on June 24th, Monsieur A. Lebreton laid before the society the results of his researches into treatment by means of extract of the corpus luteum. In an inaugural thesis M. Lebreton had already pointed out that by their histological structure it was evident that the corpora lutea were really ductless glands and that the benefits of treatment by ovarian extract depended mainly upon the principles contained in the corpora lutea. As a means of experimental verification of his theory he had some capsules made, each containing 0.05 of a centigramme of pure corpus luteum. These he administered to three patients suffering from the following symptoms: flushes of heat, buzzing in the ears, sweats, feelings of "sinking" sometimes going on very nearly to fainting, nightmares, breathlessness, palpitations, and digestive troubles—in a word, all the symptoms due to "ovarian insufficiency." Two capsules *per diem* were given before the principal meals of the day. The drug acted promptly with notable success and there were no ill effects noticed. M. Lebreton is now pursuing his researches into the therapeutics of the corpus luteum as regards the various troubles of pregnancy—notably vomiting. He has already met with two cases in which the results were conclusive, but reserves publication until he has a larger number of cases upon which to report.

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* Dale *vs.* Donaldson Lumber Co., 48 Ark., 188.

† Becker *vs.* Janinski, 27 Abb. N. C., 45.

* Ballou *vs.* Prescott, 64 Me., 305; Barbour *vs.* Martin, 62 Me., 536.

† Dashiell *vs.* Griffith, 84 Md., 363.

A Peculiar Result of Attempted Self-induced Abortion.—In the Surgical Section of the Ontario (Canada) Medical Association, Dr. Harrison, of Selkirk (*Canada Lancet*, July), reported the case of a woman with a considerable family, who, having become pregnant again two months and a half, was advised by a neighbor to produce an abortion, as it was a very easy thing to do and no trouble arose other than from an ordinary monthly sickness. A glass stylet penholder was passed blunt end foremost, but slipped from the woman's grasp and was lost to her touch. On examination, Dr. Harrison could find no rent or tear of any kind either in the vaginal walls or in the walls of the uterus. Even after putting the woman under chloroform the stylet could not be found. The woman was most positive that it was there, and that it had been passed blunt end foremost. An exploratory abdominal operation was performed, and the stylet was found in the region of the spleen with the point almost impinging upon the diaphragm where the heart lies on that muscle. The woman recovered with nothing worse than a stitch abscess.

"Prickly Heat."—This troublesome affection, especially incident to tropical climates, has exhausted the resources of many physicians. Dr. Frederick Pearse, of Bombay (*Journal of Tropical Medicine*, June) gives the following accurate description of it, and makes some suggestive remarks on the rationale of treatment. He says that it consists of an eruption of extremely minute red papules, which appear at first as red points, and then become raised into tiny hillocks. The numerous minute, closely set, and slightly inflamed papules produce an appearance not unlike that caused by an irritating liniment. The small papules, essentially discrete, become in severe cases almost confluent, and some of them develop an opacity at their apices. By pressure or rubbing, a very minute quantity of a creamy material can then be expelled. The rash is extremely irritable, and attended with severe pricking and tingling sensations. A few spots resembling acne are generally also to be observed, and occasionally a large-sized inflamed acne spot gives the appearance of a boil. The little vesicles at the apices of the papules do not contain clear fluid, nor, beyond the most minute quantity of a creamy material, is there anything like suppuration. He regards this as pent-up sebaceous material. In the same way the acne spots at first contain sebum, although they may subsequently inflame, and ultimately form and discharge pus.

Although anything which excites perspiration "brings up" the rash and aggravates the symptoms, the disease does not appear to be directly connected with the sweat glands. It is not a form of malaria, as some assert, but a seborrhœa. There are seldom any sudamina vesicles such as are so frequent in rheumatic and other perspiring diseases, and in the excessive perspirations of active exercise. The rash of prickly heat is distinctly limited to those parts of the skin containing sebaceous glands, and will be found, for example, to show a sharp margin between the back of the hand and the palm, where the hairs and sebaceous glands suddenly leave off. It seems to have a special predilection for those parts where the hairs are soft and downy. The front of the chest and abdomen, the shoulders and back and the arms, are the most frequently and most severely affected regions. It occurs also on the face and legs, but not generally to the same degree. It is not a matter of clothing, because it occurs on the backs of the hands and on the face, and on the bare legs of children. A very fine desquamation often follows from those parts which have been most severely affected. The irritation is sometimes so intense that sleep is seriously disturbed, and the restlessness produced in the daytime is to delicate persons very wearying. There is no definite course. It may last for a few days, or it may go on for months. It varies from day to day, and a short spell of cool weather will sometimes clear it temporarily almost all away.

While excessive perspiration will very quickly produce sudamina, this is not the case in prickly heat. Many days' experience of hot weather is required before the rash develops, and sudamina are seldom observed. It seems that the prolonged sweating excites at the same time the activity of the sebaceous glands. Certain of these smaller glands, not being accustomed to such activity, get their ducts choked up, and are apt to become inflamed. It is the obstruction of the ducts of the larger sebaceous glands which causes acne—those glands which are generally associated with medium-sized hairs, while the vast number of smaller glands probably connected with the downy hairs are affected in seborrhœa. Dr. Pearse looks upon prickly heat as an acute seborrhœa maintained in a more or less active state by the continued irritation of excessive perspiration.

Treatment.—In the way of prevention it must be remembered that as the complaint is so intimately associated with excessive perspiration, anything which tends to cause this must be avoided. Hot drinks are especially bad, but even iced drinks will excite perspiration in a heated atmosphere. A large quantity of any drink is injurious. Close, ill-ventilated rooms, too much clothing, and exercise will, of course, naturally excite perspiration. These matters must therefore be attended to. The clothing should be as scanty as possible, and not made of wool or silk. Open-wove cotton material is the most comfortable. The bed must not be luxurious with soft mattresses and warm pillows, but such as will offer rapid conduction away of the body heat. A punkah at night seems necessary for many people—it is certainly a great comfort. Excessive bathing, especially with the use of soap, seems to aggravate it. It is not sufficiently borne in mind that soap removes sebaceous matter from the surface of the skin; that the skin, thus freed from its natural oil, tends to become dry, rough, and hard; that the sebaceous glands are thus unduly stimulated to produce more secretion, while at the same time the excessive perspiration is also irritating them to lubricate the surface. The removal of the natural grease of the skin under these circumstances is distinctly disadvantageous, and bathing should be performed with plain water. Soap is only required when bathing is neglected.

Curative treatment follows on these lines. The body should be anointed with oil for the purpose of protecting it against the irritation of the exuded sweat. It also keeps the skin soft. The best preparation Dr. Pearse considers to be a mixture of almond oil and lanolin in the proportion, say, of 8 to 1, and scented according to fancy. The body should be anointed with this night and morning, and gentle massage of the skin used at the same time relieves the distressing symptoms. The skin is sometimes so excessively tender that anything like rubbing must be avoided.

The domestic remedies of bran or ammonia in the bath he finds of little value, while lemon juice smeared over the skin is of doubtful benefit. Lotions of Goulard water or astringents afford but very temporary relief, and the same may be said of the numerous antiseptic dusting powders. The excessive perspiration is liable to cause eczema intertrigo, so that drying powders for the axillæ, under large mammæ and between the skin folds of fat people, are useful. On the prickly heat itself they seem to have little control. Temporary relief can be obtained by lotions of carbolic acid, of menthol, and of many other drugs, but lasting improvement is secured by the use of oil. It need hardly be said that vaseline is not the equivalent of oil for this purpose. Lanolin, however, when freely used (and it must be very freely used) and when combined with a pleasant oil, he regards the most successful application.

The Pulse in Pneumonia.—M. Carrière, of Lille (*Progrès médical*, June 24th), stated at a recent meeting of the *Société médicale des hôpitaux* that the pulse in the evening frequently takes on in pneumonia the hesitating character shown on the sphygmograph by a broken ascending line. This phenomenon, he says, is easily perceptible to the touch in severe cases of pneumonia. Its prognosis is very grave, it coincides with feeble arterial tension and cardiac failure due to myocarditis. Of six patients in whom this phenomenon was noted, five died.

The Danger of Peroxide of Hydrogen in Surgery.—Dr. George W. Spencer (*Therapeutic Gazette*, July 15th) points out that useful as peroxide of hydrogen is in surgery, it is not altogether innocuous, and, like most things, has its dangers. He records a case of carcinoma of the breast on which he operated and which did well till the patient became an out patient. A sinus was injected with peroxide of hydrogen to keep it clean, and it was noticed that at each injection a larger quantity of the fluid was needed, till, finally, a swelling about half the size of an egg appeared on injection, which could be heard crackling and felt to crepitate. Pressure on the swelling caused the escape of bubbles of gas. Inflammation and suppuration of the entire area followed. Dr. Spencer says that he has no doubt that in this case the expansive force of the peroxide made new channels and forced and deposited pyogenic organisms into these channels from the original two-inch sinus. After incising at several points, draining, and discontinuing the peroxide, the patient made a good recovery. Dr. Spencer records three other cases, occurring while he was a resident at the Jefferson Hospital, in which stitch abscesses were injected with peroxide of hydrogen, the injection being followed by cellular inflammation with emphysema—the gas eliminated by the peroxide apparently carrying infection with it. The injection of peroxide of hydrogen appears also to have resulted in some cases in the infection of the intermuscular planes of cellular tissue. Dr. Spencer quotes several previous communications on this subject, which is not altogether new, but it is worthy of note by the practitioners in view of the wide use of this agent and the widespread belief in its perfect innocuousness. It is not intended to discourage its use, but to warn the practitioner of dangers that may arise, so that he may attribute them to the right cause should they occur to him.

The Control by Arsenic of the Ill Effects of Thyreoid Extract.—Mabille (*Revue de thérapeutique*, May 1st; *Medical News*, July 8th) hopes that he has found in arsenic a means of preventing the ill effects of thyreoid extract, which are produced in some patients by this drug. The increased use of the thyreoid gland, not only for myxœdema, but for obesity, goître, certain skin diseases, and in general for malnutrition, makes it important that there should be some means of controlling the vertigo, palpitation, dyspnœa, anxiety, etc., from which patients who are particularly sensitive suffer. The writer observed that these symptoms disappeared in one of his patients when she was taking Fowler's solution and reappeared when she stopped the arsenic. From two to twelve drops of Fowler's solution at a dose were found to be sufficient to prevent any unpleasant symptoms even when taking twelve grains a day. Two other patients took arsenic with thyreoid extract with happy results, and the arsenic did not weaken, apparently, the force of the thyreoid extract.

The Position of the Gravid Uterus at the Onset of Labor.—Dr. Alexander Maclennan (*Glasgow Medical Journal*, July) concludes a paper on this subject as follows: "1. Right flexion with right rotation is by far the commonest deviation. No case of the converse was met with. 2. Flexion is caused by purely mechanical conditions, and it will tend to produce rotation to the same side. 3. Flexion has no relationship with presentation or position of the fœtus. 4. Rotation is due to laxness of the uterine ligaments, and possibly to an irregular contraction, but not to an irregular arrangement of the muscular fibres. It may replace latero-flexion as an attempt at accommodation. One case showed in the space of three days, first symmetry, then rotation to the right, and finally rotation to the left. 5. Only two cases of flexion without rotation occurred, and these were complicated by contracted pelvis. 6. An absolutely symmetrically placed uterus is more common in primiparæ, but one medianly placed, if accompanied by rotation, is commoner in multiparæ."

Wound Infection as a Causative Factor in Puerperal Insanity.—Dr. A. T. Hobbs (*American Journal of Obstetrics*, July), in a paper on this subject, says that during the past four years and a half they have at the London (Ontario) Asylum endeavored to secure from the friends of the incoming female patient and the family physician an account of the previous diseases (if any) the patient has suffered from, and especially all the facts concerning the number of children and of the different puerperiums. Having this information, they are then able to decide whether or not to make a gynæcological examination of the insane woman. They have to date examined a hundred and eighty-seven women—recent admissions and chronic patients—and found distinct pathological lesions in a hundred and sixty-three. Of the one hundred and sixty-three there were no less than eighty who had inflammatory lesions of the pelvic organs that were, so far as they could judge, brought about by septic invasion at the time of a puerperium. All of these eighty women had marked subinvolution of chronic metritis, and forty-two had complicating diseased cervices. Some thirty-three had retrodisplaced uteri, and nineteen had more or less serious lacerated perinæa. In addition, eleven had inflammatory tubal or ovarian disease, three had fibroid tumors, and one a deep rectal fistula.

Subsequent to suitable surgical treatment of these eighty cases they had return to physical health in nearly all, and thirty-six, or forty-five per cent., recovered mentally, and twenty, or twenty-five per cent., had mental improvement, while the mental condition of the remaining twenty-four, or thirty per cent., remained stationary.

From this, says the author, it is evident that if septic infection is mainly responsible for the production of inflammatory conditions of the pelvic organs occurring during the puerperium, and in so large a percentage of cases mental recovery and improvement succeeded the removal of these lesions, it strongly emphasizes how important a factor the micro-organism is directly or indirectly as the cause of many a case of mental alienation. Moreover, it teaches these valuable lessons, that too great care can not be adopted by the accoucheur in conducting a female through the really dangerous period of the puerperium and protecting her from sepsis, and, to those having the care of the female insane, it teaches that to remove the inflammatory lesions of the pelvic organism, when found, is to open up a possible avenue of escape from mental thraldom for many of these unfortunate exiles of humanity.

Book Notices.

Beiträge zur Augenheilkunde in Gemeinschaft mit Professor Dr. E. Fuchs, in Wien; Professor Dr. O. Haab, in Zürich; Professor Dr. A. Vossius, in Giessen. Herausgegeben von Professor Dr. R. Deutschmann, in Hamburg. Heft 31–40. Hamburg und Leipzig: Leopold Voss, 1899.

The last ten parts published of Deutschmann's *Beiträge* contain much that is interesting. They present twenty-eight articles and complete the fourth volume. The papers of special interest and importance are three in number—viz.: one by Ammann, on retinal hæmorrhages in diseased conditions of the blood and blood-vessels; one by Haab and Sidler-Huguenin, on the final results in the treatment of glaucoma; and a very lengthy and elaborate paper by Deutschmann on his method of treatment of detached retina. Ammann's paper is a discussion of the various kinds of retinal hæmorrhage, with special reference to the ætiology and pathology. It is illustrated by cases and post-mortem examinations, and covers seventy pages.

The paper on the after-results in glaucoma is an extremely interesting one, being based on careful and long-continued observation of seventy-six private patients of Professor Haab's. In the tables that accompany it it may be seen that in acute inflammatory glaucoma iridectomy effects a complete cure in more than half the cases, and improves the vision in all. The prognosis in chronic inflammatory glaucoma is much better than the author had before supposed. They prefer iridectomy to sclerotomy in glaucoma simplex, and consider that a favorable prognosis may be given, which is a much more optimistic view than that held by most modern authors.

Deutschmann's paper on his own method of treatment of detachment of the retina covers 226 pages and contains the detailed histories of a mass of cases which make very heavy though useful reading.

Atlas of the External Diseases of the Eye: including a Brief Treatise on the Pathology and Treatment. By Professor Dr. O. Haab, of Zürich. Authorized Translation from the German. Edited by C. E. de Schweinitz, A. M., M. D., Professor of Ophthalmology in the Jefferson Medical College, Philadelphia, etc. With Seventy-six Colored Plates and Six Engravings. Philadelphia: W. B. Saunders, 1899. Pp. 7 to 228.

This volume is the counterpart of the author's *Atlas of Ophthalmoscopy*, and is among the best of its kind. But the author had a much more difficult task to perform than in the former volume, on the internal diseases of the eye, for, as he himself says, there are many appearances which can not be satisfactorily reproduced on paper. Each chapter is accompanied by a brief treatise on the pathology and treatment of the diseases considered in it, which contains all the essential points. The first chapter is on functional testing, and it is followed by chapters on the various diseases seen in a large ophthalmic clinic. Many of the colored plates are exceedingly well done. Where deficiencies occur, they are due to failure to secure the necessary clinical material.

An Essay on the Nature and the Consequences of Anomalies of Refraction. By F. C. Donders, M. D., Late Professor of Physiology and Ophthalmology in the University of Utrecht. Revised and edited by Charles A. Oliver, A. M., M. D. (Univ. Pa.), one of the Ophthalmic Surgeons to the Philadelphia Hospital, etc. With Portrait and other Illustrations. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. viii–9 to 81. [Price, $1.25.]

The American editor has presented to the ophthalmic world the complete series of Donders's aphorisms, exactly as they appeared in the original work. There are one hundred and thirty-nine of them, and it is interesting to note to what a very slight extent these aphorisms have undergone correction or alteration in the thirty years that have elapsed since their publication. All this is an additional proof of how far in advance of his fellows the late Professor Donders was. The brochure is divided into seven sections, and closes with a brief bibliography.

Retinoscopy (*or Shadow Test*) in the Determination of Refraction at One Metre Distance with the Plane Mirror. By James Thorington, M. D., Adjunct Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Third Edition, revised and enlarged. Forty-three Illustrations, Twelve of which are Colored. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xviii–19 to 86. [Price, $1.]

The first edition of this little book was published in 1897, and met with a gratifying success. The present edition contains forty-three illustrations, twelve of which are colored. It is not intended to take the place of the more elaborate works on skiascopy, but is mainly intended for undergraduate and post-graduate students. There are six chapters and a good index. The success of the previous editions has proved it to be a useful little work.

Golden Rules of Medical Practice. By ARTHUR HENRY EVANS, M. D., B. S. (Lond.), F. R. C. S. (Eng.), House Surgeon, Late House Physician and Resident Obstetric House Physician, Westminster Hospital, etc. Golden Rules Series. No. 4. London: Simpkin, Marshall, Hamilton, Kent, & Co., 1899. Pp. 3 to 71. [Price, 1s.]

ANY student or practitioner of medicine who wishes to refresh his memory with medical aphorisms which can be remembered if read but once, should possess a copy of this small volume.

Die laryngo- und rhinologischen Untersuchungsmethoden. Von Dr. GUSTAV ABELES, Assistent der Kaiser Franz Josef- (früher Mariahilfer) Ambulatoriums in Wien, praktischer Arzt. Mit 25 Abbildungen im Texte. Leipzig: C. G. Naumann, 1899. Pp. 156. [*Medicinische Bibliothek für praktische Aerzte*, Nr. 139–141.]

THIS is an extremely useful and practical guide to the methods used in the examination of the nose and throat, and it is unfortunate that it is accessible only to those who read German.

BOOKS, ETC., RECEIVED.

A Manual of Diseases of the Nervous System. By Sir W. R. Gowers, M. D., F. R. C. P., F. R. S., Consulting Physician to University College Hospital, etc. Third Edition, revised and enlarged. Edited by Sir W. R. Gowers and James Taylor, M. A., M. D., F. R. C. P., Senior Assistant Physician to the National Hospital for the Paralyzed and Epileptic, Queen Square, etc. Volume I. Diseases of the Nerves and Spinal Cord. With One Hundred and Ninety-two Illustrations. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xvi–692.

Pulmonary Tuberculosis: its Modern Prophylaxis and the Treatment in Special Institutions and at Home. Alvarenga Prize Essay of the College of Physicians at Philadelphia for the Year 1898. Revised and enlarged. By S. A. Knopf, M. D. (Paris and Bellevue, New York), Physician to the Lung Department of the New York Throat and Nose Hospital, etc. With Descriptions and Illustrations of the Most Important Sanatoria of Europe, the United States, and Canada. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xvi–17 to 343.

Selected Papers on Stone, Prostate, and other Urinary Disorders. By Reginald Harrison, F. R. C. S., Formerly Senior to the Liverpool Royal Infirmary and Lecturer on Clinical Surgery in the Victoria University, etc. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. 190. [Price, $1.75.]

International Directory of Laryngologists and Otologists. Containing Names and Addresses of Practitioners engaged in the Study and Practice of Laryngology and Otology. Compiled by Richard Lake, F. R. C. S. Published under the Auspices of the *Journal of Laryngology, Rhinology, and Otology*. The Rebman Publishing Company, 1899. Pp. 111.

Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie. Compte-rendu du service des enfants idiots, épileptiques et arrières de Bicêtre pendant l'année 1898. Par Bourneville. Avec la collaboration de MM. Cestan, Chapotin, Katz, Noir (J.), Philippe, Sébilleau et Boyer (J.). Volume XIX. Avec 13 figures dans le texte et XIII planches. Paris: Félix Alcan, 1899. Pp. xci–236. [Publications du *Progrès médical.*]

Transactions of the Louisiana State Medical Society, at its Nineteenth Annual Session, held in New Orleans, May 10, 11, and 12, 1898.

Forest Preservation. Fourth Annual Report of the Chief Fire Warden of Minnesota. For the Year 1898.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States. For the Fiscal Year 1898. Centennial Year.

Yesterday and To-day. By Francis J. Shepherd, M. D., of Montreal. [Reprinted from the *Montreal Medical Journal.*]

The Surgical Treatment of Typhoid Fever. By George E. Armstrong, M. D., of Montreal. [Reprinted from the *Montreal Medical Journal.*]

A Contribution to the Study of Bright's Disease, with Special Reference to the Ætiological Relationship of the Bacillus Coli. By Albert G. Nicholls, M. D., of Montreal. [Reprinted from the *Montreal Medical Journal.*]

Concerning Immunity and the Use of Normal Nonimmunized Serums. By W. Thornton Parker, of Westboro, Massachusetts. [Reprinted from the *International Medical Magazine.*]

The Importance of Blood Examinations in Reference to General Anæsthetization and Operative Procedures. By Hamilton Fish, M. D., of Ouray, Colorado. [Reprinted from the *Annals of Surgery.*]

Hay Fever. By Carolus M. Cobb, M. D., of Lynn, Massachusetts. [Reprinted from the *Philadelphia Monthly Medical Journal.*]

Three Practical Points in the Management of Fractures at the Elbow Joint. By Robert H. M. Dawbarn, M. D. [Reprinted from the *New York Polyclinic.*]

Shock. By Robert H. M. Dawbarn, M. D. [Reprinted from the *Medical News.*]

Bi-électrolyse et pyrogalvanie méthodes nouvelles et outillage). Par le Docteur Foveau de Courmelles, de Paris. [Réimprimé de *La Clinique.*]

La neurasthénie et certaines affections du nez et de la gorge. Par Marcel Natier. [Extrait de *La Parole.*]

Der Werth des Naftalan in der Therapie. Von Dr. A. Klug in Freiheit-Johannisbad. Separat-Abdruck aus der *Wiener medizinische Presse.*]

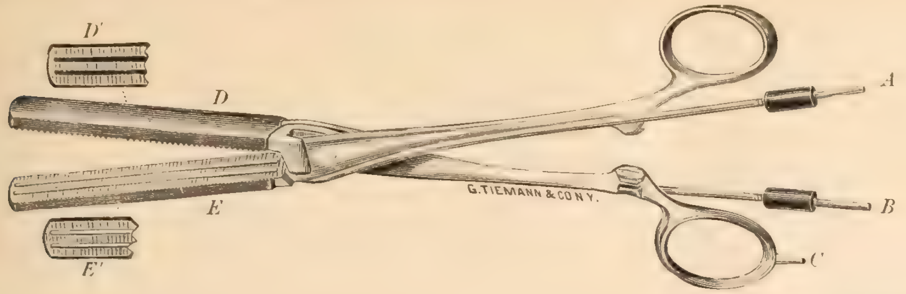
New Inventions, etc.

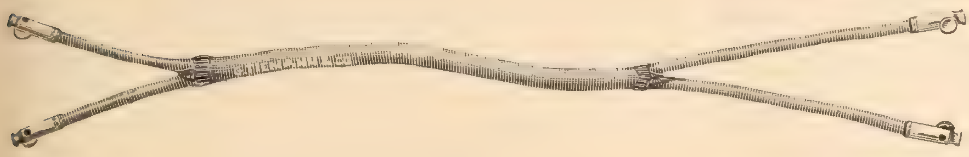
A NEW FORCEPS FOR ELECTRO-HÆMOSTASIS.

By J. SHERMAN WIGHT, JR., M. D.,
BROOKLYN.

THIS forceps is designed to clamp broad pedicles, thin them out, and desiccate them. They can be cut through without requiring a ligature to arrest the hæmorrhage. The stump left is not carbonized and takes up a new blood supply, becoming organized. The clot forms for some distance in the vessel, and the latter will withstand a pressure of about sixty pounds to the square inch.

The length of the jaws is three inches, the width less than three eighths of an inch, the thickness about three sixteenths of an inch, the length of the handles is five inches and three quarters, and the jaws are covered with vulcanized rubber, except on their inner surface, to protect the surrounding tissues from injury by heat.





Flexible connecting piece.

In the accompanying cut, *A* and *B*, are the terminals used to heat both jaws of the forceps; *C* is the terminal used with either *A* or *B* to heat its corresponding jaw alone. When *A* and *B* are used as one terminal and *C* as the other, any low-voltage circuit can be used to heat the jaws. The cable is supplied with two lamps in multiple, and when its binding posts are attached to *A* and *B, A* and *C*, or *B* and *C*, the forceps is ready for use on any high-voltage circuit. The lamps regulate the amount of heat and at the same time keep the voltage across *A, B, C* terminals below any possibility of a shock—about six to eight volts.

The serrations on the faces of the jaws are seen at *D'* and *E* of the cut.

A flexible connecting piece eighteen inches long, vulcanized with soft rubber, is attached between the forceps and the cable. This as well as the forceps can be boiled to prevent any possibility of infection. The complete instruments are made by George Tiemann & Co.

50 Pineapple Street.

Miscellany.

The Nutritive Qualities of Alcohol.—The *Sanitarian* for July says that at a meeting of the Middletown (Connecticut) Scientific Association on June 13th, Professor W. O. Atwater, of Wesleyan University, reported the results of the experiments upon the nutritive effects of alcohol, lately carried out under his direction, upon a man in the respiration calorimeter. Pure alcohol was administered with water or coffee. The alcohol was taken with an ordinary diet of meat, bread, butter, milk, sugar, and the like. The amount *per diem* was equal to about two ounces and a half of absolute alcohol, about as much as would be contained in five or six ounces or three average glasses of whisky. Three important results were observed: First, the alcohol was oxidized—*i. e.*, burned as completely as bread, meat, or any other food. Second, in this process all the potential energy of the alcohol was transformed into heat and muscular power. In other words, the body made the same use of the energy of the alcohol as of that of sugar, starch, and other ordinary food materials. Third, the alcohol protected the material of the body from consumption just as effectively as the corresponding amounts of sugar and starch. That is to say, whether the body was at rest or at work, it held its own just as well with the one as with the other.

Laparotomy for Perforated Typhoid Ulcer.—Professor Kennedy Dalziel, of Anderson's College, Glasgow (*Scottish Medical and Surgical Journal*, July), concluding a paper on this subject, says that it must now be accepted that operative interference in perforation is not only justifiable but imperative, and that to secure a full measure of succes it must be done early, and not, as was the case till a few years ago in intestinal obstruction, be put off till only a "last chance" is offered instead of what ought to have been the "first."

The Petition of the Unborn.—Dr. J. W. Ballantyne (*British Medical Journal*, April 15th), in a paper on Antenatal Therapeutics, thus voices, in the form of a petition, what he conceives to be the claims of the unborn: "We, the unborn, do here humbly set forth our right to be well born. We do not demand that we shall be born of wealthy parents, for we know from the sad experience of others once unborn like ourselves that millions of money without an hour's complete health to enjoy it is gall and bitterness. Neither do we ask that we shall be born of a titled stock; we prefer good blood to the much-vaunted blue blood with a notorious deficiency in white corpuscles. We do not petition for parents with a hereditary history free from all blots and blemishes, for we know that such are not to be had; it will suffice us if we are provided with four long-lived grandparents, and with a father and mother who, in the words of one of the post-natal poets, have 'self-reverence, self-knowledge, self-control; these three alone lead life to sovereign power.' We ask to be protected from the fathers who in the very springtime of their lives, when they ought to have been sowing health and strength, were sowing disease and death, 'wild oats' they called them, with a miserable attempt at self-deception. We object to springing from body cells weakened by abuse and toxic and pathogenic agencies. We wish publicly to express our abhorrence for fathers like the one to whom our friend, M. Fournier, refers, who, after his wife had thrice aborted and once given birth to a hydrocephalic fœtus, all of them the stigmata of his syphilitic taint, came whining a tardy repentance:

"'*Ah, docteur, si j'avais su. Si j'avais réfléchi à ce qui m'arrive aujourd'hui, si l' on m'avait prévenu de cela, je ne me serais certes pas marié. La perspective de ce qui peut arriver à mon enfant et à sa mère est pour moi un tourment de tous les instants. Je n'en dors plus. Cette pensée empoisonne ma vie.*'

"From such fathers we pray that we may be spared, for well we know that their whining repentance means little, and that when we grow up with the signs upon our bodies and in our minds of a parent's fall, they will not look upon us with pity, but with loathing, even as we also look upon them. Neither do we wish to have anything to do with the mother—we blush for her—who doses herself and us with noxious oxytocic drugs at the second and third month of pregnancy in order that she may be saved from what she regards as the irritating interference and exasperating suffering of childbearing. Such conduct makes our pulses throb with righteous indignation from the foramen ovale to the very tips of our chorionic villi. We confess that we are absolutely unable to understand the attitude of a mother who will do such a thing '*avec le cœur léger*,' and who will on another occasion shed floods of tears and become hysterical with grief over the dead body of a month-old baby, or, *horribile dictu*, of a favorite dog. Some of us hope to be mothers ourselves some day, and we trust we shall not be so illogical, not to say wicked, as to act in such a manner. We do not prefer to have as parents individuals who are tuberculous or predisposed to tuberculosis, who are congenitally deformed, or who belong to a stock in which cancer and insanity have been frequent incidents; but we do not absolutely refuse to admit their rights to paternity and maternity so long as they are themselves clean-living and right-thinking folk, for we have a great belief in the tendency of the germ plasm to return to right physiological paths if it only gets a fair chance. We think that much of the evil that is done to the germ in one generation may be undone in the next, but of course with great difficulty, for *facilis descensus averni, sed revocare gradum hic labor hoc opus est*. We do not particularly object to having first cousins as parents when they both have a clean bill of health, but we do not wish to be the public demonstration of the intensification of morbid processes which will result if they have not. Finally, we formulate our claim and state our right to be engendered by self-respecting individuals, to be conceived in soberness, and to be developed under healthy conditions of intra-uterine life."

A Banquet in Honor of Dr. Emily, of the Fashoda expedition, was given at the Grand Hotel, Paris, on June 8th. The *Tribune médicale* for June 21st contained a copy of the menu. Among the dishes were *consommé Savorgnan de Brazza, suprêmes de soles Marchand, selle de daguet de Loango à la Baratier, mamelons de pedreaux Fachoda, salade congolaise, turbans d'auanas à l'éthiopienne, bombe Emily,* and *friandises Djibouti.*

The French Association for the Advancement of the Sciences will hold its annual meeting at Boulogne-sur-Mer from the 14th to the 21st of September. The new subsection of medical electricity will sit for the first time, under the presidency of Professor J. Bergonié, of Bordeaux. The programme includes the following items: The Electrolytic Treatment of Strictures, particularly those of the Urethra, by Dr. H. Bordier, of Lyons; Stereoscopic Radioscopy and Radiography, by Professor Marie, of Toulouse; Recent Progress in Radiography, by Professor Imbert and Dr. Bertin-Sans, of Montpellier; and Endodiascopy, its Technics and its Results, by Dr. Bouchacourt, of Paris. A statue of the late Dr. Duchenne, the famous medical electrician, will be inaugurated.

Absence of Self-restraining Power in a Man Convicted of Public Indecency.—M. Bérillon (*Indépendance médicale*, June 28th) recently presented to the French Society of Hypnology and Psychology a patient who had been convicted of indecent behavior, and pointed out that he was the subject of urethral strictures, one situated in the bulbar and one in the membranous portion of the urethra; to the latter one spasm was superadded. These lesions, M. Bérillon considered, were the explanation of the reflex nervous troubles which resulted in the acts for which he was prosecuted. At certain times, under the influence of urethral irritation, the patient fell into a state of genital erethism, inducing the automatic accomplishment of indecent acts. Under the influence of genital irritation the spinal centres were relieved from the controlling psychomotor influence of the cerebrum; the lower centres became independent, functioning irresistibly. The man was deprived of controlling power, whence he ought not, in the author's opinion, to be held responsible for irresistible reflex impulses. The treatment required to be directed both to remove the cause of the impulses and to increase the power of self-control.

Christian Science and Law.—The *American Medical Quarterly* for June says on this subject that a healthy moral tone supporting the existing statutes is far better than to attempt any alteration in the same, as there is already sufficient groundwork on which to suppress all attempts at quackery or charlatanism. The forcefulness of a statute depends largely upon its interpretation, and if the people are aroused to the dangers that come to them because of methods which obtain at the present time, existing statutes are all-sufficient to punish malefactors. The moment laws are put upon the statute books which define more clearly than do the existing ones a method for punishing Christian Scientists and other healers, that moment the charge of persecution will be lodged against the profession of medicine and against the district attorneys as prosecuting officers. These people flourish under persecution.

"By their deeds ye shall know them," and by the evil effects that follow the attempts at cure in cases such as have been recently cited in the newspapers, and which have attracted the attention of the public as well as of the State and local officials, more good is done than by any prosecution under specific statutes. There is no decision confirmed by the highest courts in the land which defines "the practice of medicine," each State being left to determine this matter for itself; and that, for instance, has been the difficulty in the past and will be the difficulty in the future in regulating the practice of midwifery, unless midwives themselves are regularly licensed by the State to do this work, and others are prevented from practising this branch of physiologic medicine.

If procedures are commenced against men and women who honestly believe that they can be cured of bodily ills by faith, we shall antagonize an element which will be strengthened by reason of such prosecution. The public can be safely left to judge as to the merits of the methods of their attempted cures. If President Murphy, of the New York board of health, and others occupying similar positions, will, as cases are reported in the public prints, expose the fallacy of the methods which these misguided folk employ, it will do far more toward changing the opinions of people as to the merits of such procedure than could any law or hundreds of laws which might be enacted by legislatures.

It is a sociologic question more than a medical one, a question of morals rather than of law, and the *American Medical Quarterly* would oppose any procedure which would bring about a legal prosecution based on the theory that religious thought and action should be interfered with.

There are many truly good people who believe in Christian Science (which has been described as a misnomer because it is not Christian and because it is not science); they would feel themselves persecuted were the law to attempt to curtail their rights in this manner. Those who would prosecute them would do so on the theory that the greatest public good would be served by lessening the field of their usefulness, but, as previously stated, it would be looked upon by the disinterested and the uneducated, as well as by members of such a sect or creed, as an interference with their religious methods, and in the end would do more harm than good.

The present medical laws should not be amended excepting after careful review by doctors and lawyers, and then simply on lines which will prevent a person practising as a doctor of medicine without having received the sanction of the State, by virtue of having passed the medical licensing examination prescribed in the commonwealth wherein he or she resides.

Death of Sir William Henry Flower, F. R. S.—The *Lancet* for July 8th gives an obituary notice of Sir William Flower, formerly director of the Natural History Department of the British Museum, who died in London on July 1st. Sir William's scientific work was laborious, and among his writings of special interest to the medical profession may be named *An Introduction to the Osteology of the Mammalia* and *Diagrams of the Nerves of the Human Body*. Sir William Flower was formerly an assistant surgeon in the British army, and served with the Fifty-third Regiment (Shropshire Light Infantry) through the Crimean War, receiving the Crimean Medal with four clasps and the Turkish Medal. He was a Fellow of the Royal College of Surgeons, and formerly conservator of the Hunterian Museum of that college.

"Kissing" and Other Bugs.—The *New York Times* for July 19th reports the case of a death certificate issued in Chicago in the following terms: "Chief and determining cause of death—sting of a kissing bug; consecutive and contributory tonsillitis." Needless to say, the case was referred to the coroner. The "strangling bug" is the latest candidate for the post of journalistic honor that in former days used to be given at certain seasons of the year to the "sea serpent." From the same paper we learn that the strangling bug appears in clouds, lighting on the throats of people, flying into their faces and ears and almost "strangling" them. It is said to be recognized by an African traveler as a well-known denizen of the interior of that country.

The Acme of Sexual Ignorance.—The *Quarterly Medical Journal* for July, quoting from the *Review of Reviews*, says that Mr. J. G. Frazer contributes the first part of an article on The Origin of Totemism to the *Fortnightly Review* for April. It is based chiefly upon the book by Mr. Spencer and Mr. Gillen on The Native Tribes of Central Australia, which has just been published by Messrs. Macmillan. Mr. Frazer says that the book contains a full description of the most extraordinary set of customs and beliefs ever put on record. The natives, whose customs are described by Messrs. Spencer and Gillen, are so devoid of what may be called ordinary common sense that, although they suffer severely from frost at night, they have never yet learned to use the furs of the animals which they kill as clothing. They huddle naked round little fires, into which they frequently roll when sleeping and burn themselves. Even this, however, is a less extraordinary illustration of their difference from the rest of mankind than is to be found in their theory as to the propagation of the species. Mr. Frazer says: "They have no notion that mankind is propagated by the union of the sexes—indeed, when the idea is suggested to them they steadfastly reject it. Their own theory to account for the continuation of the species is sufficiently remarkable. They suppose that in certain far-off times, to which they give the name of 'Alcheringa,' their ancestors roamed about in bands, each band consisting of members of the same totem group. Where they died their spirits went into the ground, and formed, as it were, spiritual storehouses, the external mark of which is some natural feature, generally a stone or tree. Such spots are scattered all over the country, and the ancestral spirits who haunt them are ever waiting for a favorable opportunity to be borne again into the world. When one of them sees his chance he pounces out on a passing girl or woman and enters into her. Then she conceives, and in due time gives birth to a child, who is firmly believed to be a reincarnation of the spirit that darted into the mother from the rock or tree. It matters not whether a woman be young or old, a matron or a maid, all are alike liable to be thus impregnated by the spirit—although it has been shrewdly observed by the natives that the spirits on the whole exhibit a preference for such women as are young and fat. Accordingly, when a plump damsel, who shrinks from the burden of maternity, is obliged to pass one of the spots where the disembodied spirits are supposed to lurk, she disguises herself as a withered old hag and hobbles past, bent up double, leaning on a stick, wrinkling her smooth young face, and mumbling in a cracked and wheezy voice, 'Don't come to me, I am an old woman.' Thus, in the opinion of these savages, every conception is what we are wont to call an immaculate conception, being brought about by the entrance into the mother of a spirit apart from any contact with the other sex. Students of folklore have long been familiar with notions of this sort occurring in the stories of the birth of miraculous personages; but this is the first case on record of a tribe who believe in immaculate conception as the sole cause of the birth of every human being who comes into the world. A people so ignorant of the most elementary of natural processes may well rank at the very bottom of the savage scale."

The Teeth of the Young.—The *British Medical Journal* for July 8th, in an editorial comment on the Teeth of the Schoolboy, urging the necessity in England of a periodical examination of children's teeth, says: "While agreeing with the numerous dentists who have written concerning the decay and care of the teeth, we are of opinion that it is not alone after the eruption of the teeth that care should be exercised. The future of the teeth as well as the future of the body depends for the most part on the care of the child during the early years of its existence, and it is more important to consider the subject of children's teeth during their development in the gums and before they have erupted than even to check decay when they appear or to scoop out micro-organisms from their sockets. This aspect of the hygiene of the teeth has yet to be dealt with."

A Doctor Princess and her Thesis.—According to the *Écho médical du nord* for July 2d, the Princess Guédroytz de Béloséroff has recently published in the *Revue médicale de la Suisse Romande* a remarkable paper as the result of work in Professor Roux's clinic at Lausanne, entitled Complete Excision of the Vesicula Seminalis and of the Vas Deferens in a Case of Castration for Primary Tuberculosis. The *Écho* comments on the singular subject of the medical princess's communication, appreciating at the same time the value of the communication, and says that the times move quickly, and it is probable that in a few years we shall see women specialists on the diseases of men, as we now find men specialists on the diseases of women. We should not be surprised if it were not some idea of carrying the attack into the enemy's country that actuated the royal lady doctor in her choice of a subject.

A Long Sleep.—The *Journal de médecine de Paris* and the *Écho médical du nord,* both of date July 2d, refer to the "Sleeper of Thenelles." It appears that a young woman, Marguerite Boyenval, fell asleep abruptly as the result of strong emotion on May 29, 1883, and has slept continuously since that date without showing consciousness even for a quarter of an hour. She is now thirty-five years of age, of which period sixteen years, or nearly half, have been spent in a cataleptic condition. She is said to be almost a skeleton, which is small wonder, seeing that she has been kept alive with difficulty by nutritive enemata only. Her pallor is described as ghastly, yet her pulse beats over eighty to the minute. She lies with her hands joined; but if the arm is raised, it remains so until forcibly lowered. The entire surface of her body appears to be devoid of sensation. If the story is true, this sleep is undoubtedly a record breaker.

A Memorial Bust of the Late Professor Rutherford, F. R. S., was unveiled by Sir William Muir, principal of Edinburgh University, in the physiology class room of that institution on July 8th.

Cerebro-spinal Meningitis without Fever or Retraction of the Neck.—Mr. David A. Belilios, M. R. C. S. (*Lancet,* July 15th), referring to a case mentioned by Dr. Osler in the *Lancet* for June 24th in which these two classical symptoms were absent, records a similar case in which fever and retraction of the neck, usually supposed to be almost pathognomonic of the disease, were absent, the case, however, presenting other signs distinctive of cerebro-spinal meningitis.

Mr. Havelock Ellis's Work on Sexual Perversion.—In an editorial annotation the *Lancet* for July 15th cites, if not approvingly, at least without adverse criticism, the trenchant remarks on this subject of Dr. William Lee Howard, of Baltimore, as follows: "In two of the June numbers of the *Maryland Medical Journal* Dr. William Lee Howard, of Baltimore, blames the unwillingness of some medical men to treat patients whose symptoms, whether bodily or mental, are related to the sexual organs or functions, and he vigorously denounces the prosecution last year of the London agent for the sale of Mr. Havelock Ellis's book, *Sexual Inversion.* He maintains that a recognition of the pathological states of the sexual centres as demonstrated in certain psychical conditions and morbid acts, together with a full comprehension of the power of association and suggestion in the adolescent sexual neuropath, are essential for medical practitioners, and he argues that if a pathological state such as congenital sex perversion is too disgusting to be recognized, then a pathological state producing syphilitic sores of the genitals ought by parity of reasoning to be too filthy to be treated. He had been hoping that Mr. Havelock Ellis's prohibited book would have had the effect of bringing English medical men and publicists to understand that a human being is just as liable to have the growth in the cells making up the sexual centre disturbed and distorted as in the cells making up any other centre, physiological or psychical, from which it follows that it is unreasonable to send a man to prison because he is deformed in certain psychical centres. Mr. Ellis's book he describes as a classic, saying that it is cleaner, has more of the scientific atmosphere, and shows greater study and research than any of the works hitherto published on the subject, not excepting those of Krafft-Ebing or Schrenck Notzing.

Chicago Humor.—According to the *Chicago Medical Recorder* for July, Dr. Hibbert W. Hill, bacteriologist to the Boston board of health, has examined cultures taken from the transmitters on some of the most frequently used public telephones in Boston, and has found no pathogenic bacteria, merely the "hay bacillus" and one or two other harmless varieties. It is, says the *Recorder,* now in order for New York papers to express their surprise at the absence of the "bean bacillus."

The Right to Revoke a License to Practise.—According to the *Chicago Medical Recorder* for July, the supreme court of Iowa recently rendered a decision declaring that the State board of medical examiners possessed the right to revoke the license of any physician whom it considered incompetent to practise medicine.

The Validity of an Habitual Drunkard's Will.—According to the *Evening Sun* for July 22d, Surrogate Varnum on that day dismissed a contest on the admission to probate of a will, opposition to which was based on the ground that the testatrix was an habitual drunkard. The will was contested by a daughter to whom but a small sum was left, the bulk of the property being left to "strangers in blood."

The surrogate said:

"The worst drunkards have times when they are sober, and have perfectly lucid intervals when their acts are legal and valid. The fact of habitual drunkenness raises no presumption that at the time the act was done the inebriate was intoxicated."

Upon the general subject of intoxication the surrogate also remarked: "A dissipated person is not precluded from making a contract or executing a will, even though he be partly under the influence of liquor when performing such acts. If fixed mental disease has resulted from such indulgence, or the person is so excited thereby as not to be master of himself, then only are his legal acts void. Less mental capacity is required to execute a will than a contract or a deed."

A Doctor's Carrier Pigeons.—Going abroad for news at home, we learn from the *Journal de médecine de Paris* for July 2d of a doctor in the State of Nebraska who, practising in a sparsely populated district with long distances to travel, makes use of his carrier pigeons to bring him bulletins of progress from patients, whereby he is enabled to dispose his visiting list to the best advantage.

THE NEW YORK MEDICAL JOURNAL, August 5, 1899.

Original Communications.

THE AMERICAN SOLDIER AND VENEREAL DISEASES.

A REFUTATION OF SOME OF THE STATEMENTS OF MR. EDWARD ATKINSON.

By WILLIAM A. HAMMOND, M. D.,
BRIGADIER-GENERAL AND SURGEON-GENERAL, U. S. ARMY (RETIRED).

Perhaps of all the classes of men throughout the world soldiers are more frequently the subjects of venereal diseases than any other. This proclivity is due not altogether to circumstances incidental to army life, but to a great extent to the fact that military men of all ranks, from the field-marshal to the private, have in every age of the world evinced a marked tendency to become the victims of female blandishments, and have, moreover, been the special favorites of the fair sex both of high and low life. A long experience not only as a medical officer of the army, but as a practising surgeon among civilians in and out of hospitals, and very thorough observation of civil and military hospitals, both in this country and in Europe, have given me extensive opportunities for studying the class of diseases in question in their relations to the American soldier, and have prompted me to extend my researches into the subject as regards the armies of other nations. I am, therefore, I trust, not altogether deficient in the knowledge necessary to place a very important subject in its true position before the medical profession and the public generally.

The erroneous statements in Mr. Atkinson's pamphlet, *The Hell of War*,* if allowed to go uncorrected, are calculated to do very great harm, coming, as they do, from a gentleman whose conclusions have hitherto been so uniformly based on facts, and whose position as a political economist adds greatly to the force of his remarks. But on the present occasion he has ventured into waters beyond his depth, and, not only this, but into waters of different quality from those in which he has hitherto waded. I shall not quote the proverb *Ne sutor supra crepidam* as being entirely applicable to him, for his mind is so thoroughly trained to habits of research that it does not require much labor for him to obtain a moderately correct idea of any subject, no matter how foreign it may be to the general trend of his studies. But, in the present instance, a "moderately correct" idea will not answer. Absolute truth is required. A more thorough investigation than he has given the subject would, I am confident, have convinced him of his errors; and then, as honesty is his distinguishing characteristic, he would not have fallen into the mistakes which the science of the present day is so readily capable of demonstrating.

In the first place, and in striking exemplification of the fact that Mr. Atkinson does not know what he is talking about, is his confounding of venereal diseases with syphilis, evidently under the impression that the two are correlative terms. From this confusion he draws the inference that they are all capable of contaminating the blood of the person affected and of transmitting infection to progeny from generation to generation. Thus he says: "The greater cost will be the corruption of the blood through the infection of every force that will be annually called out to maintain our rule." And again—

"The greatest and most unavoidable danger to which these forces will be exposed will be neither fever nor malaria; it will be venereal diseases in their worst and most malignant form." And again—

"It is well known that while there may be an apparent cure, this disease [venereal disease] works corruption of the blood to the third and fourth generation, ending in degeneracy."

Now, under the designation of "venereal disease," as the term is used by Mr. Atkinson, and in the tables of statistics from which he quotes, are included:

1. Soft chancre or chancroid, as it is generally called.
2. Gonorrhœa.
3. The true syphilitic or infecting sore—the hard chancre.

This is the only one that possesses the slightest claim to the quality of infecting the general system and thus producing constitutional syphilis. The other two are simply local diseases which are treated locally, and the poison of which is, under no circumstances, absorbed into the blood so as to produce constitutional disease capable of being transmitted to the offspring.

In the early part of my professional service in the army I was stationed in New Mexico, which at the time had an unenviable reputation as a hotbed of syphilis. There was then (1849–'52) no distinction between the hard and the soft chancre, both being considered by the medical profession generally as competent to cause contamination of the blood and thus produce constitutional syphilis. The view held was similar to that which Mr. Atkinson holds now; but since that period fifty years have elapsed, and with the progress of medical science the fact has been established beyond question that only one of the so-called venereal diseases —the hard chancre—is capable of affecting the general system. I soon observed that only a few cases of venereal ulcerations were followed by general symptoms; but it was reserved for Ricord, the eminent French syphilographer, to point out the essential difference between the two primary sores and to establish beyond the shadow of a doubt that the soft chancre, or chancroid, is never a source of constitutional syphilis. Mr. Atkinson ignores this distinction, and as the soft chancre is much more commonly encountered, especially in hot climates, than the infecting or syphilitic sore, the force of his statement relative to the dangers to untold generations of Americans from the return of our soldiers, is, by this circumstance alone, materially lessened. The soft chancre is amenable to treatment by local measures, and if any soldiers should succeed in reaching the United States with unhealed chancroids, or non-infecting sores, the only persons liable to suffer would be the women with whom they might have illicit relations, and they would only be involved in like manner with themselves. The Philippine Islands are especially noted for the readiness with which venereal diseases of all kinds are cured, and this without any treatment whatever except such as the climate affords. It is not likely, therefore, that any but a very small proportion of soldiers suffering from such affections would arrive in the United States with the ability to communicate even a non-infecting chancroid. Thus, Sir John Browning,* while stating that venereal diseases in the Philippines are widespread, declares that they are easily cured by the simple remedies used by the natives. The ready subjection of these affections, as they exist in the Philippines, to medical treatment, is the uniform testimony of all familiar with the subject whom I have questioned. And the assertion of Mr. Atkinson, that they prevail there in their "worst and most malignant form," is not borne out by the facts. They are more virulent in the slums of our large cities than they are in any of our recently acquired tropical possessions. The moist climate of the Philippines, accompanied as it is by high temperature, is calculated to eliminate the syphilitic poison from the system in a manner similar to that exercised by the Hot Springs of Arkansas. If they were near to this country it would be good medical practice for physicians to send their syphilitic patients to them in order to produce quicker and more effectual cures.

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* *The Hell of War*, p. 17.

The other affection coming under the head of venereal diseases—gonorrhœa—is likewise incapable of producing constitutional disease, except in the rare instances in which it appears to predispose to rheumatic affections of the joints. But no one contends, except perhaps Mr. Atkinson, that this condition can be transmitted either to the mother or the offspring. In fact, gonorrhœa is only communicable by actual contact with the specific gonorrhœal bacillus, and in this respect is analogous to chancroid.

Nothing is left, therefore, of Mr. Atkinson's venereal diseases and their transmission to numerous unborn generations but the hard, the infecting, the true syphilitic chancre; and this constitutes but about one seventh of all venereal diseases. Thus, taking the data furnished by the surgeon-general in his report for 1898, we find that for the year 1897 the ratio for the venereal diseases was 84.59 to the 1,000 of mean strength in a total of 27,374, while of this ratio only 12.04 to the 1,000 were syphilis.

Syphilis has long labored under the imputation of being transmissible from the infected father to the offspring. But it is now scarcely a question for doubt that such an event never takes place, and that the only ways for the unborn child to acquire syphilis are by passing over—while in process of entering the world—primary sores, and by the mother contracting such sores during the first six months of her pregnancy; and even this latter is a contingency not likely to happen. Now, as it takes at least six weeks for a transport to reach any port in the United States, and as the duration of most chancres, even without medical treatment, rarely exceeds a month, many of the soldiers suffering from such sores would be free from them, and therefore incapable of communicating the disease, even though they might be affected constitutionally. Only those whose primary lesions were still unhealed could transmit syphilis to offspring by giving primary sores to the mother, and thus, possibly, causing in her constitutional disease. For it by no means follows that a person with a true syphilitic chancre can transmit the poison to the person with whom he or she has intercourse. Syphilis is like smallpox and other contagious diseases. Many may be exposed to infection and yet never become infected. Then, admitting that a woman contracts syphilis from an impure connection with a soldier recently returned from the Philippines, in order that she may transmit the disease to her offspring, she must acquire constitutional syphilis during the first six months of her pregnancy, and even then the chances that the child will be infected are remote. Moreover, it must be borne in mind that it is by no means certain that the mother having a primary sore from an infected soldier would acquire constitutional syphilis. Many persons, male and female, escape infection of the system, even though having local specific lesions, just as many persons, though exposed to contagion, escape scarlet fever, diphtheria, measles, small-pox, etc. It is probable that only a small proportion of those who render themselves liable, even though taking no precautions in avoidance, acquire syphilis.

A main point to be insisted upon is that constitutional syphilis is never transmitted by the father either to the mother or child, but that except as mentioned in regard to the infection of the offspring by the mother, actual contact with a primary lesion is necessary.

That this is the view held by the best authorities, and taught in the text-books and in our medical schools, is shown in the following citations:

Sturgis,* in his paper on Hereditary Syphilis, collects much evidence to show that syphilis in the unborn child occurs only when the mother is the subject of the disease; the existence of the affection in the father being a matter of no importance so long as the mother does not become infected by him from a primary lesion.

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* *A Visit to the Philippine Islands*, London, 1859, p. 83.

* *New York Medical Journal*, July, 1871.

Van Buren and Keyes * say: "Fathers with tertiary syphilis, certainly, as a rule, when the mother is sound, procreate healthy children as far as syphilis is concerned."

Otis † says: "In order, therefore, to the production of the disease in the adult, in the infant, or in the embryo, the infecting cell of syphilis must first be brought into contact with healthy cell material. No mysterious hereditary influence is necessary or can be admitted."

And again: "But that any syphilitic disease proved to be such by its power to transmit syphilis has been communicated to healthy persons by infants conceived after the active or contagious stage of syphilis has passed, there is no well-authenticated evidence to prove."

And again: "Cases [of syphilis] reported during such infection to have occurred through the sole agency of the father suffering from syphilis (the mother up to this time being free from the disease) must be classed either among those instances where the characteristic features of the disease are absent, or where they are so imperfectly developed as to have escaped detection."

Dr. Shaw-Mackenzie,‡ in his monograph on Maternal Syphilis, speaking of Mr. Henry Lee's statement to the effect that in so-called hereditary syphilis due to the father, there has been a urethral or concealed chancre, says:

"It throws a reasonable doubt on the spermatozoon as an accepted vehicle for virus in the absence of diseased testes, and authoritatively admits the maternal origin of syphilis in the vast majority of cases." He afterward reiterates this opinion, and declares that it is sustained by all the facts that can be adduced.

Dr. Ogilvie, in his instructive paper on Congenital Immunity to Syphilis,# says: "Without denying the *possibility* of a paternal influence of this kind [the infection of the unborn offspring through the father], or a maternal one during the mother's tertiary stage, or after her recovery, I have only indicated the direction in which all the actual evidence which we possess on this subject seems to point." This evidence, he declares throughout his monograph, is overwhelmingly to the effect that constitutional syphilis existing in the father is not transmitted to the offspring under any circumstances whatever.

There is no *possible* way for a man suffering from constitutional syphilis to infect a healthy woman but through the seminal fluid which has become contaminated through the absorption of the syphilitic virus into his blood. But, as a matter of fact, it never is thus poisoned. No one has yet succeeded in producing a chancre or other syphilitic manifestations by inoculating animals or healthy persons with the seminal fluid of a syphilitic man. Fournier * says: "Being given a syphilitic father and a healthy mother, there is every chance that the child born of the union will be exempt from syphilis." And again, "I have under notice eighty-seven cases of syphilitic men who, having married, have not communicated to their wives the least suspicious symptom, and from whose marriage one hundred and fifty-six perfectly healthy children were born."

The researches of Mireur † are perfectly conclusive on this point of the non-inoculability of the seminal fluid of syphilitics confirming, as they do, the experiments of Fournier. And it may be regarded now as being definitely established that such inoculability does not exist. As Hochsinger ‡ says: "It is thoroughly well known, and, through the experiments of Fournier and Mireur, established beyond doubt that the semen of a syphilitic man as such can not communicate syphilis." At the present day, he repeats, it is regarded as impossible that the semen of a syphilitic man can transmit the infection to a healthy woman.

In fact, syphilis can not be communicated to healthy persons through the physiological secretions or excretions of syphilitic men or women. Thus, neither the tears, the sweat, the urine, the milk, nor the semen contain the syphilitic virus. And, therefore, no matter how they reach the system they can not transmit the disease. A healthy child, for instance, may with impunity take into its stomach the milk of a syphilitic woman, or such milk may come in contact with abrasions in its mouth, and it will remain uninfected.

Up to about twenty-five years ago some authors, following Paracelsus, Swediaur, Astruc, and Ulrich, von Hutten, contended for the hereditary transmission of syphilis through the father. But at the present day the best authorities—those basing their opinions on observation and experiment—absolutely deny such paternal influence. If there are any writers who still hold to the doctrine in question they are such as have obtained their information from antiquated treatises which have long since been put aside. There are some who still believe in the therapeutical virtues of sarsaparilla, or in the identity of the hard and soft chancres, or in any one or more of a dozen exploded notions. There are others who refuse to accept the fact that mercury is curative of syphilis in some of its manifestations, and again others who deny the efficacy of quinine in malarial fever. There will always be such persons, not only in the medical profession but in all the other walks of life—persons who are not convinced by facts, but who are governed by heated emotions instead by the cold intellect, which alone serves man in his search for truth.

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* *A Practical Treatise on Genito-urinary Diseases, with Syphilis*, New York, 1874, p. 521.

† *Practical Clinical Lessons on Syphilis*, etc., New York, 1883, p. 205 *et seq.*

‡ *On Maternal Syphilis*, London, 1898, p. 178.

# *British Journal of Dermatology*, vol. xi, 1899, p. 46.

* *Leçons sur la syphilis*, etc.

† *Recherches sur la non-inoculabilité du sperme.*

‡ *Studien über die hereditäre Syphilis*, Leipzig und Wien, 1898, p. 25.

So much for the hereditary transmission of syphilis, on which Mr. Atkinson, with a view of terrifying the people and discouraging the soldiers serving in our foreign possessions, has so vehemently insisted in his pamphlet. And what becomes of his fallacious assertion so dogmatically expressed "that it is well known that while there may be an apparent cure, this disease works corruption of the blood to the third and fourth generation, ending in degeneracy?" And how unjustifiable his appeal to fathers and mothers, "How many of your own sons will you expose to sure infection and degeneration in the conduct of your philanthropic purpose?" *Sure infection and degeneration!* If there ever was a dictum utterly unwarranted by the facts, this is one.

Mr. Atkinson says (page 18):

"The records of the medical department and the testimony of visitors to our camps in this country, coupled with the observations of members of Congress with whom I have consulted, prove that this phase of the hell of war had taken firm hold of our troops before they had been exposed to the greater hazard at their points of destination in Cuba, Porto Rico, and Manila."

There is a very considerable substratum of truth in this citation. Undoubtedly a great deal of the gonorrhœa, chancroid, and syphilis which was found among our troops in the places mentioned by Mr. Atkinson was taken there from New York, San Francisco, and other parts from which troops embarked, and from which sources of infection the diseases in question were still more extensively than heretofore spread among the inhabitants of those islands. San Francisco was preeminent as a nursery of these diseases. Even during peace, some of the garrisons in the United States exhibited so large a proportion of venereal affections that they were worthy to come into competition with the numbers among the British troops in India, which are so triumphantly adduced by Mr. Atkinson without the slightest warrant as being applicable to our own troops in our tropical possessions. Thus it is stated in the *Report of the Surgeon-General for 1894* that Columbus Barracks, Ohio, had the highest admission rate —333.88 to the 1,000 of mean strength. Fort Brown, Texas, comes next, with a ratio of 265.05, and even here at Washington Barracks the ratio was 167.47. As General Sternberg very appositely remarks: "The statistics sometimes fail to include the whole of the cases." And, again, in speaking of the prevalence of venereal diseases at Columbus Barracks, "the depot surgeon states his opinion that it is no uncommon occurrence for men so diseased to treat themselves, or get treatment outside without having their names appear on the sick report; and the post-surgeon at Fort Brady is confident that not more than twenty-five per cent. of the venereal cases at his post came under his observation."

In 1897 the absolute number of cases of all venereal diseases, as shown by the *Report of the Surgeon-General* for that year, was 1,961, of which only 276 were syphilis, preserving therefore the ratio of one seventh. The ratios were of all venereal diseases, for Jefferson Barracks, Missouri, 211.59; Fort Ringgold, Texas, 206.35; and Fort Leavenworth, Kansas, 184.70; at Columbus Barracks, it being no longer a recruiting depot, the ratio had fallen to 160.26; while at Washington Barracks it was only 136.75.

In 1898, during part of which the war existed, Jefferson Barracks shows a decrease to a ratio of 164.77; Fort Ringold, Texas, has fallen to 186.99; and Fort Leavenworth, Kansas, to 134.04. Columbus Barracks shows a still further reduction to 147. As to Washington Barracks, it no longer figures among the twenty posts showing the greatest ratios, and as the smallest ratio is at Fort McPherson, Georgia—117.90—the ratio at Washington Barracks could not have exceeded those figures.

It is doubtful if syphilis existed in the Philippines, or in Cuba or in Puerto Rico before it was carried there by Europeans. It is certainly true that it was unknown in Hawaii before it was imported by Europeans and Americans. It seems scarcely fair then, in Mr. Atkinson, to turn around now on the people of those islands and taunt them with the crime of infecting our soldiers. If the population of Hawaii has, as he says, been reduced to a "degenerated remnant," it is because the diseases they contracted from the whites were not subjected to proper medical treatment. When scientifically managed no disease is more susceptible to cure than syphilis, whether primary or constitutional. As to leprosy in the Hawaiian Islands, which he declares "gives evidence of the utter degeneracy of these poor people," I should like to ask him how many Americans have contracted the disease there? Can he name a single one? And how about leprosy with the Norwegians among whom it prevails extensively. Is it an evidence of the degeneracy of these people? And does Mr. Atkinson know that this disease was not indigenous in Hawaii, but was taken there by the Chinese?

Mr. Atkinson omits all mention of the excessive use of alcohol as a factor in causing the degeneracy of the Hawaiian people, and, indeed, of all aborigines with which whites, especially Anglo-Saxons, are brought into contact. Neither does he allude to tuberculosis and small-pox; nor does he mention the fact, well known to anthropologists, that half-breeds are never so resistant to morbific influences as either of the parent stocks.

The statistics quoted by Mr. Atkinson from British sources relative to the prevalence of venereal diseases among the British troops in India and other British tropical possessions, and the use he makes of them, are calculated, if unexplained, to lead to erroneous conclusions, and perhaps, as he evidently intends, to terrify the people of this country and the soldiers serving in our armies in foreign parts.

Relative to the increase in the spread of venereal diseases during the last few years, the success of the efforts of the ultra-good people of England in securing the repeal of the Contagious Diseases Act, must be charged with a great part of the odium therefor. While this act was in force the soldiers of the British army were inspected once a week by their medical officers, and therefore the first evidences of venereal diseases were discovered early. Moreover, the knowledge that they had to submit to such an examination had great influence in preventing the men exposing themselves to infection. General Coppinger, United States army, informs me that he observed at Plymouth the operation of the law. Among the soldiers who were inspected weekly there was very little syphilis or other venereal disease, while among the sailors who were not inspected there was a great deal.

Dr. Ogilvie declares that the amount of syphilis among the British troops serving in India has enormously increased, and that the disease has assumed a most virulent and malignant form. This, as he says, was first caused by the abolition of the Contagious Diseases Act, by the provisions of which the men had to be inspected every week.

The *Report from Netley Hospital by the Committee of the College of Physicians* states "that almost every variety of syphilitic disease was represented; those of a virulent form being very numerous, and the results of the disease were, in many cases, deplorable, while the appearance of the sufferers was most pitiable. Recovery is hopeless, and what to do with them has become a question of serious difficulty. It is impossible to send them to their homes; their friends refuse to receive them. Death alone can solve the difficulty.

I may here interpolate a question to Mr. Atkinson. A great many soldiers have returned from the Philippines, Cuba, and Puerto Rico. Does he know of the existence among these troops of any condition approaching, even remotely, this horrible picture of the state of affairs at Netley? I will answer for him. He does not. For there has not been the least resemblance to it; nor will there be.

Dr. Ogilvie remarks as follows on this scandalous matter:

"This is a most extraordinary picture of a disease which is generally considered one of the most controllable and best curative. The calamity during the Peninsular war, when the ravages were as notable as those in India at the present day was, as we have seen, chiefly due to the treatment adopted. The question therefore put in a leading medical journal: 'Is syphilis efficiently treated in the army?' seems eminently justifiable." Then he states that a committee appointed to inquire into a similar subject in 1868 found that no uniform plan of treatment existed in the forces at that time; and then continuing, says: "To obtain any answer to the above question an exhaustive inquiry into the details of the whole treatment and the hygienic conditions is necessary."

The above question is answered in the negative by the *British Medical Journal*, in which it appeared, and it quotes as follows from the *Report of the Army Medical Department* for 1891 showing how matters stood at that time:

"Formerly, and indeed at the present time, when a soldier contracts syphilis he is admitted to hospital and there treated until all the primary signs or symptoms of the disease have disappeared. He is discharged for duty, when all treatment is, of course, suspended; the disease breaks out afresh; he remains on duty as long as he can; he eventually comes to hospital, is readmitted, and under treatment the symptoms again disappear; he is again discharged for duty and treatment stops, and again the disease breaks out and again he is admitted to the hospital; and this series of events goes on. As he never gets a lengthened treatment, he never gets rid of the disease. He goes abroad to the tropics and is there an easy prey to the diseases common in those regions or the ravages of syphilis. Eventually he is either invalided, and is no further use as a soldier, or he dies."

"Was ever," continues the editor, " a more serious confession made in an official report? Is it any cause for wonder that the usefulness for active service and invaliding on account of syphilis is so great? May not the increased violence in the army reasonably be attributed to inadequate treatment?"

The prevalence of venereal diseases, especially of syphilis, among the British troops serving in India is, therefore, clearly the result of inefficient medical treatment, and is not due to the influence of climate or any specific virulence in the disease. This is conclusively shown by the improvement that has recently taken place. In an interesting paper on The Treatment of Syphilis in the Army by Intramuscular Injections of Mercury, Surgeon-Major Lambkin * has proposed a plan of treatment from the use of which the reports already received are uniform in declaring that great amelioration has been effected. It consists in injecting into the muscles—preferably those of the gluteal region—a mixture of metallic mercury, one drachm; lanolin, two drachms; and carbolized olive oil, (two per cent.), one drachm. These ingredients are rubbed up together till the globules of mercury have entirely disappeared. The maximum dose of this compound is ten minims, and it is injected once, or at most twice a week. The advantages claimed for the method over the administration of mercury by any other process are:

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* *British Medical Journal*, 1898, p. 487.

1. The soldier can be treated while out of hospital attending to his duties.
2. It is absolutely in the surgeon's own hands, and therefore certain to be administered.
3. It does not produce diarrhœa or indigestion.

The soldier is directed to attend the hospital at morning sick-call, and the injection being given, he rejoins his company without any interruption to his military duties having occurred.

The results given by Surgeon-Major Lambkin from several hundred cases coming under his own observation are exceedingly gratifying. Moreover, the experience of other medical officers is to the like effect. Thus, the surgeon-general of her Majesty's forces in India reports this plan as not only being generally successful in the treatment of syphilis, but as having also lessened the number of admissions into hospital for this disease.

Surgeon-Captain Porter * reports most "happy results" from treatment by this system.

The director-general of the British army,† in his annual report to the secretary of state for war, says: "Hypodermic injections of lanolin and mercury were found to give excellent results."

Another point upon which Mr. Atkinson insists, and which he thinks exhibits an exceptional state of filth and liability to infection in the cities of the Philippine Islands, is as follows:

"The precautions reported to me by commercial men who are thoroughly familiar with the conditions of these places, especially Manila, made necessary even on the part of private persons lest the infection should be carried from lavatories and the like, indicate the utterly corrupt condition of all the principal cities in these islands." This would be laughable if it were not calculated to deceive ignorant or thoughtless persons. It refers to a condition which exists with more or less thoroughness in every city of the civilized world, and in which the cities of the Philippine Islands possess, for instance, no exclusive or even marked preeminence. Who would, without precautions, expose himself to infection from such a source in London, Paris, or New York, or even in Boston? In fact, however, the danger of contracting venereal diseases from water-closets and the like is greatly exaggerated. In an extensive practice of over fifty years I have never observed such a case even among those who were not particularly cleanly in their habits. That the *possibility* exists is not to be denied. I know of no recorded cases, however, of syphilis having been thus acquired. Gonorrhœa is occasionally communicated in this way, and Otis mentions two cases occurring in persons who had used the closets of hotels in this country, which were apparently caused by infection from these sources. But such events are rare, and even their possibility is doubted by some authorities. I have diligently questioned army officers who have served in the Philippines, and they know of no cases of infection from such sources. They state that the liability is no greater there than it is in any of our cities from similar agencies.

Now, as regards our own troops in the Philippines we have, as yet, no extensive or exact data in their relations to venereal diseases; but what little we have does not support Mr. Atkinson's inference that because these affections are widespread among the British troops in India they must necessarily be equally prevalent among the American soldiers in the Philippines. I am informed by the surgeon-general that few medical reports have, as yet, been received, and that those that have come to hand make no reference to venereal disease as being especially prevalent or virulent. It is, however, stated by the chief surgeon of the Second Brigade, Second Division, Eighth Army Corps, stationed at Manila, that of 358 cases of disability, 89 were of venereal diseases. Of this number it should be borne in mind that only 13, or one seventh, were probably syphilis. This ratio is not so great as that of several army posts in this country. Mr. Atkinson might as well say that as Columbus Barracks shows a ratio of 333.38 to the 1,000 of mean strength, a similar proportion must exist at Newport Barracks, Kentucky, across the river from Cincinnati, Ohio. There is nothing on record showing any extreme virulence or refractoriness to treatment. All the information that I have been able to obtain orally from officers and others returning from the Philippines, shows that our troops are not suffering to a greater extent than the troops stationed in this country. It is a fact that the American soldier takes better care of himself than does the British soldier. He is more careful in not exposing himself to infection and much more cleanly in his habits. Moreover, it is his custom to report to his surgeon, or to some other medical authority, as soon as the first sign of disease is perceived.

Mr. Atkinson states that: "In the Philippines none of these precautions [sanitary] have been taken. No well-prepared stations exist, sanitary science is unknown, and our troops must be mostly volunteers under the direction mainly of inexperienced and ill-prepared line officers."

This is incorrect in every particular. There are excellent and thoroughy well-provided hospitals; sanitary requirements are in force and sanitary science is not unknown. Relative to the line officers, I can not make a sweeping assertion in regard to their fitness, but I have reason to believe that most of them know their duties and attend to them. As to the medical officers, all the evidence obtainable goes to show that they are well-informed and assiduous in the performance of their duties. We know that Manila and other places occupied by the American troops have been thoroughly cleansed and disinfected. There are no special foci of disease there, and it is not likely that our troops will suffer more severely in any respect than if they were in camp on the shores of the Gulf of Mexico. Certainly they will not die or be disabled in anything like the proportion which existed among the troops composing the Army of the Potomac when they were serving on the Chickahominy.

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* *British Medical Journal*, 1898, p. 1308.

† *Army Medical Department Report for 1896*, p. 161.

The arguments used by Mr. Atkinson throughout his pamphlet are such as would, if acted upon, shut out Cuba, Puerto Rico, and the Philippine Islands from all communication with the rest of the civilized world. If his assertions are correct, he has proved too much. Commerce with them would be out of the question, for his statements are just as applicable to persons engaged in trading operations as to those serving in our army. No one, practically, contracts a venereal disease without his or her active cooperation. Soldiers are particularly apt to expose themselves to contagion; but lapses in this respect are by no means confined to them, and civilians living in foreign parts are notoriously less careful in the matter than such persons would be if residing in their own country. How much more worthy of Mr. Atkinson it would have been, if he had written, with his usual force and lucidity, a paper pointing out the evils of promiscuous sexual intercourse! This would have been a graceful act, for which his ability and researches in social science would have rendered him particularly capable. As it is, he has made statements which are not facts, has drawn inferences which are not warranted, and has expressed opinions which are ill-founded. His hysterical and unpatriotic appeals to the people of the United States to discourage the recruitment of our army are unworthy of him. How far they will prevail with people influenced by his personal character, but ignorant of the facts, I do not know. But I do know that they will fall unheeded on the ears of the patriotic men who are fighting under the flag of their country.

ANÆSTHESIA:
NITROUS OXIDE; ETHER; CHLOROFORM.*

By S. ORMOND GOLDAN, M. D.

(*Concluded from page 153.*)

Nitrous oxide is a colorless gas of a peculiar sweetish, pleasant taste and slight odor. It is produced by the decomposition of ammonium nitrate; four gallons weigh one ounce. It is liquefied with a pressure of thirty atmospheres, with moderately intense cold, and is stored in steel or iron cylinders which are made to withstand a pressure many times that of the contained gas. The cylinders are made of capacities varying from twenty-five to a thousand gallons, the twenty-five, fifty, and one-hundred-gallon bottles being quite portable. The English cylinders with pedal attachment for regulating the flow of gas are far more convenient than the American pattern. When the gas is used at the patient's residence, two cylinders should always be taken. This precaution always insures a sufficient supply of gas, as there is no ready means of determining when a cylinder is nearly exhausted.

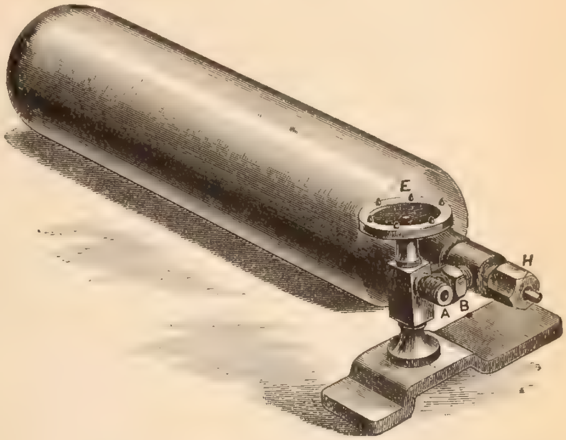

Fig. 1.—An English gas cylinder with pedal attachment adjusted.

Those who wish to become anæsthetists should first learn to administer laughing gas. While it is the safest anæsthetic, it requires the undivided attention of the administrator. He so acquires the habit of giving his entire attention to the process that he will not fail to do so when using the less safe anæsthetics, rather than observing the steps in the operation, which he so frequently does. Nitrous oxide is comparatively little used in this country except for the extraction of teeth, as the usual objections to its more general use in surgery are that it requires great skill for prolonged anæsthesias, and the apparatus is not easily portable and is expensive. It certainly is heavier than an ether or chloroform apparatus, but I have never experienced any inconvenience from the weight of it. If hospital internes were properly instructed in the administration of the gas many operations could be performed with its use where now ether and chloroform are necessary.

The advantages of nitrous oxide are its safety, rapidity, and absence of after-effects; its disadvantages are the skill required, and the fact that it does not relax the muscles as ether and chloroform do. It is indicated—

In any operations in which complete and prolonged muscular relaxation is not necessary; it may be said that on account of the venous oozing it is unsatisfactory in operations of delicate dissection. As a preliminary to ether in general anæsthesia it is unexcelled, and, unless contraindicated, there is no better method of inducing narcosis.

To replace chloroform as a preliminary to ether.

To replace chloroform for surgical and gynæcological diagnostic purposes.

When ether and chloroform can not be employed.

For removal of sutures.

For opening and curetting of abscesses.

For excision of ingrowing toe nails.

For circumcision, internal urethrotomy, and meatotomy.

For removal of tonsils and adenoids.

For reduction of dislocations and setting fractures.

For posterior colpotomy.

For uterine curettage, etc.

It is contraindicated in the cases of very large and obese patients; in any condition causing stress upon the right heart, in which increase in arterial tension is unsafe; in arteritis, atheroma, aneurysm, alcoholism, and drug habits, such as opium, cocaine, etc. It should be remembered, when using the gas before ether, that even in very stout patients, who do not take nitrous oxide well, the gas may be given, if continued only to the point of unconsciousness, and then replaced with ether—that is, it is not always necessary to fully anæsthetize the patient with nitrous oxide before changing to ether.

The apparatus for the inhalation of nitrous oxide alone consists of an inhaler with an inspiratory and expiratory valve and a stopcock, which automatically stops the flow of gas. Connecting the inhaler with the gas bag, there are from four to six feet of wide-calibred, silk-covered rubber tubing, which is wired throughout its entire interior. There are also a gas bag of from four to seven gallons capacity, a yoke to attach to the gas cylinder, and a key for turning on the gas.

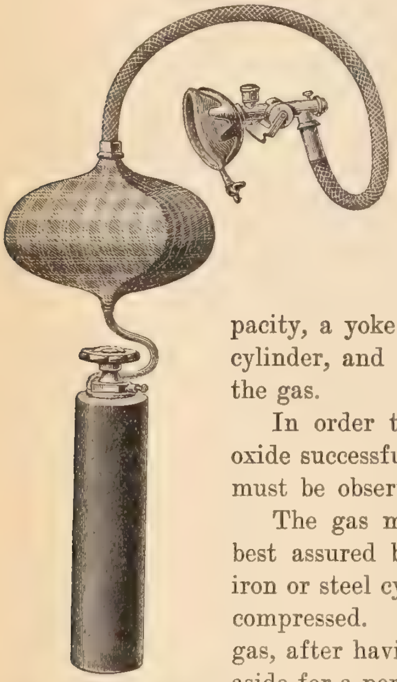

Fig. 2.—The American nitrous-oxide inhaling apparatus.

In order to administer nitrous oxide successfully certain principles must be observed:

The gas must be pure; this is best assured by using it from the iron or steel cylinders in which it is compressed. In one instance the gas, after having been used and set aside for a period of eighteen years, was again used and found to be perfectly efficacious. Unless air is entirely excluded from the apparatus during the inhalation, the time in which anæsthesia can be induced will be unnecessarily prolonged, if not resulting in complete failure, and the patient will exhibit the phenomena of the preliminary stage of improper etherization. The pneumatic face piece should not be too tensely inflated; this will permit of better coaptation to the face. If the patient has a beard, the mask may be moistened around its edges and firmly held against the face, at the same time clasping it on each side of the bridge of the nose. These devices will effectually prevent the entrance of air. The direct air valve should be closed, permitting the gas to expel all air from the tube leading from the gas bag to the inhaler. By folding the gas bag compactly before tapping the cylinder, a dilution of the gas with air will be avoided. The clothing of the patient should be loose; corsets should be removed; in fact, everything which is in the least likely to impede respiration should be avoided. The patient may be sitting or recumbent, whichever is most convenient to the operator. Assurance should be given the patient by telling him how safe the gas is, and what sensations he will experience. He should be permitted to breathe plain air first; this will encourage confidence, and, what is of more importance, will indicate by the clicking sound of the valves whether the mask is properly adjusted.

Perfect quiet should be enjoined, as talking and noises are apt to attract the patient's attention, and no one but the anæsthetist and always a third person, preferably the surgeon or nurse, should be present while the patient is taking the gas. In operations inside the mouth a soft-rubber cube should be inserted between the teeth, so that if tonic spasms of the muscles of the lower jaw occur it will not unnecessarily delay the operation. While the patient should be encouraged to breathe deeply, he does so unconsciously after the first few inspirations, for as soon as pure nitrous oxide is inhaled a deficiency of oxygen in the blood takes place. This venosity stimulates the respiratory and vasomotor centres in the medulla to increased action.

The following phenomena manifest themselves during the inhalation of laughing gas: After the first inspirations the patient begins to experience the usually very pleasant sensations of the gas, nitrous oxide having much the same sweetish taste or odor as chloroform; it has, however, not the irritating effects of chloroform and ether upon the upper air-passages. There may be a slight feeling of suffocation which quickly passes off; a feeling of stimulation is experienced; a tingling sensation of the whole body, particularly in the toes, fingers, and tip of the tongue; a buzzing in the ears; sometimes the patient has dreams of a pleasant or unpleasant nature; respiration is increased in both rate and volume, inspiration being prolonged; the pulse is full and usually rapid (it may be irregular; this does not call for a discontinuance of the inhalation, neither does dilatation of the pupils, which may or may not occur); the face is flushed and phonation may occur; the patient now becomes unconscious (in from thirty to sixty seconds). The reflexes are not abolished, and it is not wise now to test for them, as this may bring the patient back to consciousness. Spasms of the muscles occur; the eyelids twitch and open and close rapidly; the eyeballs protrude or become fixed or oscillate, roll upward or inward; the pupil usually, though not always, dilates. This, with the conjunctival or corneal and ciliary reflexes, which may or may not be abolished, is not a safe guide to anæsthesia. Muscular spasms of the face, thorax, abdomen, and extremities occur, stertor ensues, and the face and mucous membranes become progressively more congested until they assume a livid or intensely cyanotic hue. The patient is flaccid, anæsthesia is complete (total time consumed, from one to two minutes). Anæsthesia by nitrous oxide, if properly conducted, is complete in from one to two minutes. The available anæsthesia for surgical purposes continues from thirty to ninety seconds. This can sometimes be prolonged by preventing the too rapid admission of oxygen.

After removing the inhaler consciousness returns almost immediately (evidenced by absence of stertor, disappearance of cyanosis, and regular respiration), but the effects of the gas may not entirely disappear for some minutes.

Muscular relaxation may not be complete, and a moderate amount of cyanosis may be persisted in to produce it, though this symptom should always be taken as an indication for the admission of air. If cyanosis is persisted in, the breathing becomes more rapid, shallow, or labored, and the pulse weak and irregular. If oxygen is not quickly admitted, death by asphyxia will occur. As soon as the mask is removed or air admitted, the color changes and stertor ceases. If it is desirable to prolong the anæsthesia, the gas may now be readmitted. In this way anæsthesia by nitrous oxide may be indefinitely prolonged.

The patient should not be permitted to regain complete consciousness before readmitting the gas, and during the second and subsequent application of the mask anæsthesia is more quickly induced than during the primary inhalation.

Nitrous oxide produces its effects principally by the prevention of the admission of oxygen into the blood (a process of asphyxiation, the symptoms of which are indicated by the intense cyanosis); in this condition the respiratory and vasomotor centres are first stimulated, then paralyzed, which is evidenced by the convulsive movements of respiration, arterial contraction, increase of blood pressure, venous engorgement, and engorgement of the right heart. Death occurs from paralysis of the respiratory centre, the heart continuing to beat after respiration ceases. The dangerous symptoms are those principally connected with respiration, and the treatment should consist in the removal of all obstructions to the free ingress of air, artificial respiration, venesection, and possibly tracheotomy; but even in threatening cases these procedures will very rarely become necessary—in fact, the patient regains consciousness before one can carry them into effect. After-effects of nitrous oxide are rare; occasionally there are vertigo, nausea, headache, or a dull feeling about the head; vomiting is an extremely rare occurrence. Glycosuria rarely occurs. I have seen it in three cases in which anæsthesia was prolonged. This disappeared in all cases in a few days, and was probably due to the stimulation of the diabetic centre, which is known to be in proximity to the respiratory and vasomotor centres, and is probably owing to the deficiency of oxygen rather than to an excess of nitrous oxide. Why sugar appears in some cases, though very exceptionally, and not in others, there is at present no satisfactory explanation. After repeated inhalations of pure nitrous-oxide gas on five successive days, I was unable to detect sugar in my own urine.

Many attempts have been made from time to time to eliminate the asphyxial phenomena of nitrous oxide, and these attempts, at the hands of different investigators, have met with more or less success. Bert, of Paris, first used a mixture of nitrous oxide and oxygen, in the proportion of eighty-five to fifteen, with an additional barometric pressure of seventeen centimetres. For this purpose he devised an air-tight chamber with which, by means of pumps, he was enabled to increase the pressure at will. It was subsequently determined by Martin, with Bert's apparatus, that twelve per cent. of oxygen and an additional pressure of two atmospheres produced most ideal results. This apparatus, while entirely satisfactory, was not practicable and quickly fell into disuse. Bert then sought for a method of producing surgical anæsthesia by laughing gas and oxygen at normal pressure, and used the gas and oxygen with unsatisfactory results. He then used a mixture of nitrous oxide and oxygen preceded by pure nitrous oxide with a satisfactory anæsthesia in the dog for half an hour.

Dr. Hillischer, a Vienna dentist, was the first to practically use laughing gas and oxygen, which he administered in thousands of cases, using first a gasometer and subsequently a regulating apparatus. Dr. Hewitt, of London, after very extended experiments, came to the conclusion that a mixture of laughing gas and oxygen, the oxygen being present to the extent of ten or twelve per cent., answered best in the majority of cases, and he states that there is no definite percentage of oxygen which will answer satisfactorily in every case; that to attain the best results a regulating apparatus is necessary. Dr. Van Arsdale (*American Journal of the Medical Sciences*, 1891, vol. c) used the gas and oxygen in different proportions. When fifteen per cent. of oxygen was used, the patients exhibited marked muscular rigidity and semiconsciousness; with ten per cent. of oxygen and a moderate amount of pressure upon the gas bag anæsthesia was produced without any cyanosis. His results are practically the same as Hewitt's, when ten per cent. of oxygen was administered from a distended bag.

My own method of using laughing gas and oxygen has been rather crude, though perfectly effective. I used two cylinders—one of nitrous oxide, the other of oxygen; the rubber tubing connecting the gas cylinder with the reservoir bag was separated in the centre, and a T-shaped connection inserted; this was connected with the oxygen cylinder, which was opened slightly, permitting oxygen to pass to the bag through the gas tube. I regulated the amount of oxygen with pressure of the foot on the tubing; the bag was first almost filled with gas and then the oxygen permitted to flow in until it was tense. I was not able to determine the exact proportions used in each case, but it must have been in the neighborhood of ten per cent. of oxygen; the patient was then permitted to inhale the mixed gases, each of which was increased or decreased, according to the effects produced on the patient, by permitting more or less oxygen or nitrous oxide, respectively, to pass into the bag. Anæsthesia was continued as long as forty minutes in some cases, with entire absence of cyanosis, though muscular rigidity sometimes persisted.

I have discarded this method for the more perfect and satisfactory apparatus of Dr. Hewitt. This consists of face piece, stopcock with valves, mixing chamber of the two gases, and indicator; double India-rubber bag joined together, separated by a sæptum; India-rubber tubing, one tube being inside the other, for the purpose of conducting the gases from the cylinders; combined stand and union, two nitrous-oxide cylinders, and one oxygen cylinder.

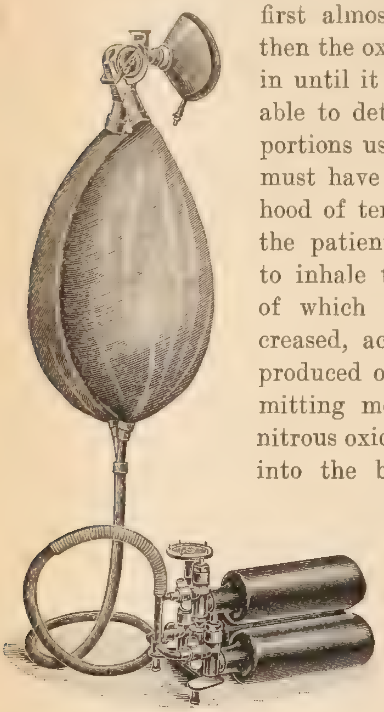

FIG. 3.—Dr. Hewitt's apparatus complete for the administration of nitrous oxide and oxygen.

Even greater skill is required in the administration of nitrous-oxide gas and oxygen than in administering laughing gas alone. In ordinary laughing-gas narcoses pure nitrous oxide is used, after which the patient is permitted to breathe ordinary atmospheric air. This, as is known, is nothing but practically diluted oxygen, and can be used only for intermittent administration with the gas. Therefore, by using pure oxygen in a proportion of from eight to twelve per cent., according to the particular types of patients, with a regulating apparatus, it is perfectly possible to induce and maintain ideal surgical anæsthesia. The whole principle upon which the mixed gases are used is to give just sufficient oxygen to prevent asphyxial phenomena and little enough not to interfere with anæsthesia. While this principle is easily enunciated, it requires the greatest skill to carry it out. It can readily be seen why the use of the mixed gases in certain known proportions will not meet with satisfaction in all cases. In fact, the proportion of the two gases must be varied from time to time in the same patient, and for this reason a regulating apparatus must be employed.

When using the mixed gases it is even of more importance to exclude all atmospheric air than when using pure nitrous oxide. Sudden transitions from oxygen to laughing gas, and *vice versa*, are undesirable. The inhalation should be begun with laughing gas and a small percentage of oxygen—two, three, or four per cent.—and gradually increasing the percentage up to eight or ten per cent., avoiding the excitement due to too much oxygen on the one hand and the asphyxial phenomena of too much nitrous oxide on the other.

The preparation of the patients should be the same as when using any anæsthetic. The inhalation, when properly conducted, will eliminate largely if not entirely the unpleasant features of the gas when used alone. The time required to induce anæsthesia is slightly longer, taking from three to five minutes, than when using the gas by itself. Consciousness returns almost immediately.

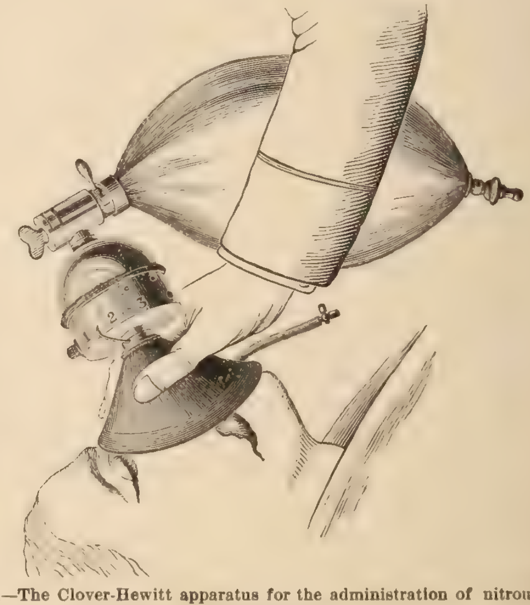

FIG. 4.—The Clover-Hewitt apparatus for the administration of nitrous oxide and ether.

The use of laughing gas as a preliminary to ether is certainly a superb method of anæsthetization. It is difficult to understand why it is not more commonly used in this country, as the advantages gained from the patient's, surgeon's, and anæsthetist's standpoints more than compensate for the additional apparatus necessary. The advantage is the absence of any unpleasant excitement and irritation due to ether—in fact, there are no stages to the anæsthetic; the patient simply quickly and quietly goes to sleep. The anæsthesia is induced more rapidly than with chloroform, the time varying, according to the type of patient, from two to five minutes. This element of time is a great advantage from the surgeon's standpoint, and one can almost always accurately gauge the time in which the patient will be ready for operation. The quantity of ether necessary to induce anæsthesia will be found surprisingly small, and the unpleasant sequelæ following narcosis will consequently be lessened.

Two different plans may be employed: First, using the gas to complete anæsthesia, and then replacing it quickly with ether in a closed inhaler, accomplished with the American apparatus. Second, using the gas with progressively large quantities of ether until anæsthesia is complete, and then discontinuing the use of the gas. This is accomplished without change of inhalers; for this purpose the Clover-Hewitt (English) apparatus is preferable. At the same time this permits of the use of the gas bag as a supplemental air bag into which the patient breathes.

The indications for the use of nitrous oxide and ether are those for ether in general; the combination should not be given where high arterial tension is undesirable, or in alcoholism and drug habits. Here chloroform will be found preferable as a preliminary to ether.

The inhalation should be conducted, in general, as when giving nitrous oxide alone, and when the patient is etherized the same care is essential as if the gas had not been used. Nitrous oxide does not in any way lessen the dangerous action of ether when used in conjunction with it.

THE NEW INDUSTRIAL POSITION OF WOMAN IN ITS RELATION TO HEALTH AND VIGOR.*

By MARY JORDAN FINLEY, M. D.

The new woman may be a myth, but the new industrial place of woman is a reality. Every field of labor is now open to both sexes on nearly equal terms. Women enter business in every branch in all its ramifications. They are finding in learning, in literature, and in work not only the means of supporting life, but the happiness that makes life worth supporting.

To be a happy wife and mother will always be the highest ideal for every good woman; as it ought to be the highest ideal of every good man to be a happy husband and father. But marriage and motherhood are not all of a woman's life, just as marriage and fatherhood are not all of a man's life.

The permanency of this change is assured by the fact that it is primarily an economic one. Its coming has not been accelerated by the female shriekers for women's rights; it will not be retarded by the male howlers for woman's sphere.

It is the result of the specialism which characterizes the civilization of this age. Skilled labor, complicated machinery, and new motive powers have taken the work formerly done in the home and divided it among many special industries, each carried on most successfully in large establishments.

It is the overthrow of household industries in competition with specialized manufactures that has forced women into the general industrial field. Steam and electricity, which have revolutionized economic conditions, are revolutionizing the social fabric. A recognition of its economic character is necessary to enable us to appreciate the irrevocableness of the change which is taking place—a change which, once fully inaugurated, must affect in some measure all the relations of life.

By it women are placed in a new environment, to be wrought upon by new influences, mental, moral, and physical. As physicians we are deeply interested in the effect which these changed conditions are likely to have upon the health of women and on the strength and vigor of the race.

Pessimists have bewailed the disadvantages of the new activities—the exposure incidental to many employments, the strain of competition in business and labor, the mental application necessary to success, and so on. Let us see if there are not compensating advantages, which give us reason to hope for a more vigorous womanhood, with a progeny less numerous, perhaps, but better bred. In the passing *régime* are many things that could not fail to be detrimental to mental and physical well-being.

Indoor life is enervating; idleness and aimlessness are not conducive to health. Uncongenial employment is depressing mentally and physically to either man or woman. To oversee a modern household of the well-to-do, or to accomplish all the work of the poorer, is enough to employ well one woman in a family and no more.

That every woman should like housework is no more to be expected than that every man should like farming.

The financial dependence of the sex, assumed in all cases, real in the majority, has entailed an amount of annoyance, chagrin, humiliation, and suffering that has contributed largely to nerve tire, hysteria, and lowered vital tone. No matter what her inherited means or how much work she did in the home, the woman has been considered dependent on the man, who is the head of the family, be he husband, father, brother, or son.

By the wife and children well beloved this was perhaps never felt, but to the unloved wife with unwelcome children, to the widowed daughter, the sister, the mother, the old-maid aunt, the mother-in-law, it became too often the bread of bitterness.

When the woman's living and social place depended on being loved, the winning of affection and holding it became the most important thing in life. To please some man and keep him pleased was a task which often gave her more care and anxiety than would be required to conduct a large business enterprise.

Fear, envy, jealousy, anger, grief, and all the depressing passions of "this little fiery-colored world" were bred in her with no outside interests to turn her thoughts in healthier channels. The emotional was cultivated to the general detriment.

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* Read before the Ohio State Medical Society, May 11, 1899.

If she failed to win or keep love she must look to pity for a living, and to gain sympathy she would exaggerate her little ills to mysterious illnesses until she herself believed in them. What wonder if she became the hysterical mother of defective daughters!

The social necessity of marriage forced women into uncongenial unions, which brought unhappiness and consequent lowered vitality to both parties thereto. It led to marriage with men who were morally and physically unfit to be husbands and fathers. It induced an undue preponderance of the sex element in the life of women.

The idea that man is the unit of humanity and woman the complement to a part of his nature; that she exists only for his happiness and the reproduction of the species, dominating society under conditions that imposed idleness or a narrow range of duties on women, has led to a morbid sex-consciousness in both men and women, and an overstimulation of the emotions and affections in women.

The normal equilibrium between physical, mental, and moral has been disturbed, to the detriment of the entire organism.

Women have been taught in the family relations to yield their will, to see their opinions disregarded and their judgment set aside. The tendency of this has been to weaken the will and to render the judgment vacillating.

It is impossible to foresee how far-reaching may be the social effects of the economic revolution, but it is already evident that these things are changing for the better. Industrial self-support brings with it social independence. The mental stress to which women are subjected in industrial pursuits is such as to tax thought rather than feeling, to develop strength rather than induce weakness. The trouble has long been that women thought too little and felt too much.

Business life cultivates the judgment, the will, the reasoning faculty. It requires self-control and tends to correct the predominance of the emotional nature. It brings a desire for respect and admiration rather than for love or pity.

Higher education gives more healthful mental discipline and a broader horizon with more varied sources of happiness. Diversified interests distract the mind from injurious indulgence in grief, from the exaggeration of trifles, from hypochondria and hysteria.

Wider intelligence and better business methods employed in housekeeping, in the choice and preparation of foods. and in the care of children must be of incalculable advantage to the family.

The exigencies of an active life will require more healthful dressing, at least for business hours. Women will be more out of doors. The girl who goes only twice a day to and from an office or a shop gets at least that much more outdoor life than the one who spends all day in housework; gets that much more exercise than the one who spends the day at home sewing; gets that much more change of sights and sounds to take her out of herself and to give a healthful stimulus to the nervous centres.

Able to choose from a greater variety of pursuits, each may find some occupation in which she can take pleasure and interest.

Managing her own estate or paid for her work, she will not be subjected to the irritation of begging for her own.

When marriage is no longer necessary as a means to gain a livelihood or to escape odium, it will become more an equal pairing, with common interests, and equal rights, duties, and responsibilities. The independence thereby secured to woman in the marriage relation will be one of the strongest possible safeguards for her own health and the health and vigor of her offspring.

The double standard of morals by which we measure men and women is responsible for many suffering women, feeble children, and childless wives. When the economic independence of the sex is fully assured they can demand of men with whom they marry the same purity that men demand of women, and in time there may come a single code of morals by which impure men and impure women, alike debarred from marriage, may herd together outside the bounds of decency, unlikely to perpetuate their kind.

I have spoken of the new industrial position of the sex. It is not new; it is old as the race. It is a return from artificial to natural conditions. Throughout Nature the struggle for existence engages equally male and female. Among all primitive people women have borne an equal share in the battle of life. Agriculture and manufactures, as well as the preparation of food, were women's work among the Indians. The peasant women of Continental Europe work in the fields side by side with the men, and in Vienna many of us have seen them digging sewers and carrying the hod up the walls of buildings that rival those of Chicago in height.

Generations of toil have given to those women a powerful muscular development. The patients in the gynæcological clinics did not come from that class.

Something of moral refinement, something of physical charm, women may have gained by being relieved from the racial struggle, but they have lost in development of mental and physical strength. The home is woman's sphere, we are told; but with all the varied activities that once centred there taken out of it, except the last steps in the preparation of food and the promotion of cleanliness, it becomes too narrow, monotonous, and aimless, it affords too little of either mental stimulus or muscular activity. Kept within it, the woman's thoughts, interests, and sources of happiness become too much centred in her sex relations, her position as wife, mother, or maid.

Social conditions which have tended to specialize the human female as a merely reproductive organism have not produced a vigorous womanhood.

I am convinced that the causes of the peculiar susceptibility of our women to pelvic disease is to be found not in the individual, but in racial degeneracy, the result of an artificial condition of society, a faulty environment, leading to perverted innervation and trophic change. Imperfectly functioning pelvic organs are stigmata of degeneration, if you will.

Women need a new environment. They need to be wrought upon by new influences which will stimulate equally and tend to develop symmetrically all the faculties of the mind, all the functions of the body. Such an environment they will find in the world of work which is now opening to them, such influences in its imperative demands.

MY OBSERVATIONS

ON THE TYPHOID-FEVER EPIDEMIC IN SOUTHERN CAMPS,

AND ITS TREATMENT.

By JOSEPH F. CHMELICEK, M. D.,
LATE ACTING ASSISTANT SURGEON, U. S. A.

It will be necessary to describe briefly the conditions prevailing upon my arrival at Tampa, Florida, August 3, 1898. At this time the authorities in Washington realized the peril to which the troops were exposed if left in a through-and-through infected camp The troops that were left behind after the last expedition started for Puerto Rico received orders to move farther north, either to Jacksonville or Fernandina; consequently, all the regimental hospitals suddenly left behind in succession from twenty-five to forty-six patients, who had to be accommodated in the Second Division Hospital of the Fourth Army Corps. To this hospital, which, although it had been opened only three days, contained a hundred and seventy-six patients, it was my fortune to be assigned upon my arrival in Tampa.

There was but one assistant surgeon, who was sick himself, to take care of this great number of patients, and he was almost helpless from the lack of medicines, nurses, and orderlies.

The hospital proper, a brick building situated on the flat land at West Tampa, had been previously used as a convent, and was admirably adapted for hospital use, being provided with a large number of windows and several entrances. It had three floors, and the floor space of each was about ten thousand square feet. On the ground floor were a small room used as an office, and a separate room as an officers' private room, with two other rooms of about equal area, one of which was used for preparing patients for admission, and the other as Ward No. 1.

On the second floor were three rooms divided into two wards, and the entire top floor, consisting of one large, light hall, was used as the fourth ward. Besides this, there were several tents used as isolation wards for measles cases, and convalescent wards composed of about a dozen hospital tents.

To inspect and examine a hundred and seventy-six patients, with the outside temperature at 105° F. in the shade, and with thousands of flies keeping one company, was not a very pleasant task, but it was very interesting work. Patients with typhoid fever, malarial fever, dysentery, plain diarrhœa, venereal diseases, and even suspected cases of yellow fever, massed together, constituted a chaos not soon to be forgotten.

After two hours of hard work inside, we emerged to inspect the grounds, kitchen, pits, etc., and accidentally stopped to look at the process of filtering water used for drinking purposes, when the chief surgeon took the dipper from the receptacle filled with boiled and filtered water, took a good drink, explaining the harmlessness of such water (which came from an artesian well only forty feet deep, and through loose sand), and *deposited the same dipper back into the vessel.* This oversight cost me much trouble with the hospital-corps men, who witnessed it and naturally tried to do exactly the same thing as they had seen the chief surgeon do—viz., drink from a dipper and deposit it back from their lips into the filtered water. I must add that a good-sized lump of ice was placed occasionally in this water to keep it cool.

The pits were only about forty feet from the entrance to the kitchen tent, and the number of flies around these holes was countless. Although the camp police had orders to cover these pits occasionally with sand and lime, they avoided the work as much as possible, and it required my colleague's and my own constant attention to see that it was done at least every three hours. In addition to the pits there were two large barrels—one filled with strong bichloride solution, in which all the sheets were dipped before being sent to the laundry, and the other used for washing out bedpans and receptacles from the hospital. Except for the absence of some minor articles, as cuspidors and spit cups, the sanitary conditions were fair.

This could not be said about the food. Although the Red Cross Society was well represented by the head nurse, Mrs. Freer, and Dr. Partella, the agent at Tampa, who tried their best, it took nearly fourteen days before we could secure for our patients, especially the convalescents, nourishing food.

Milk, which spoiled within two hours after its receipt, was good when fresh, but it often gave out, and then there was nothing to replace it. The lack of attention caused delay in supplying the sick at regular intervals with milk, and the oatmeal, which was on the list of light diet, was often unfit to eat, owing to its being burned. All this was remedied later, about the 10th, when almost everything was supplied by the Red Cross Society. After the appointment of a United States army surgeon as chief surgeon, the requisitions for medical supplies were promptly attended to.

Having taken charge, I endeavored to introduce some system, and recommended therefore to the chief surgeon that the serious cases of typhoid should be separated and placed in one ward, the surgical in another, etc.; but this request was denied or overlooked, and I had to arrange with my colleague, Acting Assistant Surgeon Cox, to get out of this chaos. We decided to constitute the first and third wards the severe typhoid-fever wards, using the second for mild cases, and leaving the fourth, or the entire top floor, for mild cases of typhoid and malarial fevers and for convalescent patients. This ward we left in charge of a male nurse, with two orderlies for day and two for night service, and concentrated our force of female nurses in the lower wards.

Later, when the patients kept arriving by a score or two a day, new tents were erected on the west side of the main building, where surgical cases and those under observation before being sent on furlough were accommodated.

On August 8th the hospital contained two hundred and twenty-three patients, and up to that date not a death had taken place. On the 9th the staff was changed and a major and surgeon of the United States army took charge.

On the 14th we discharged twenty-five soldiers as cured and lost two, a corporal from the first ward, with hæmorrhages and perforation, and a private from the second ward, who died of toxæmia and exhaustion. On the 16th we lost a private in the second ward and a corporal of the Fifth United States Cavalry in the first ward, both from hæmorrhages with perforation. The autopsy showed the best specimen of ulcerated intestines I have yet seen. On the 16th another contract surgeon arrived, and now we divided the time so that two surgeons remained always on duty, while the third took half a day off, so as to get a breath of fresh air and finish his charts and reports. On the 18th a hospital-corps man died in the third ward, and the same night and during the following day three more died in the first ward, one of black vomit and one from cerebro-spinal meningitis. The excessive rain in the thunderstorms, which occurred each afternoon, blew some of the tents down and exposed many patients, but without ill consequences. By this time, the 24th of August, four hundred and eighty patients had been treated with only eleven deaths, although a large number had complications. On the 26th a trainload of convalescents, ninety-six in number, was sent north, and only twenty-four were left behind. The heat and moisture at this time were intense, and it was a great relief for the patients to be sent to a cooler region. The working staff consisted of one hospital steward, three acting hospital stewards, forty-four hospital-corps men, nine female, and one male nurse, and three acting assistant surgeons, besides the chief surgeon and executive officer.

The patients consisted mostly of cavalrymen, except the measles cases, which all came from the Second Georgia, United States Volunteers. The First United States Volunteer Cavalry and the Fifth and Sixth United States Cavalry were represented in the largest numbers. There were many from other regiments and from the hospital corps among the sick, but they all suffered with more or less severe intestinal disorders and malarial fevers, except the hospital-corps men, who suffered from typhoid fever, contracted while on duty. The majority were regulars. In Fernandina exactly the same conditions prevailed. On September 1st, the night when the *Olivette* was sunk, we arrived to take the place of the volunteer surgeons and to bring out order from chaos. Some regimental surgeons would not consent to the removal of their patients to the division hospital, but insisted on keeping them in the regiment with all the disadvantages attendant thereon, in order to be able to try their own particular treatment, and, as the troops were moving on to Huntsville and elsewhere, many patients were left behind, filling the division hospital to its fullest capacity. No lack of surgeons prevailed, but the hospital-corps men, being all volunteers, were badly trained—a lot of spoiled babies who expected to have a sort of picnic when they enlisted, and whose colonels, in many instances being tired of the many charges preferred against them, and yielding to influence at home, assigned them to the hospital corps in order to get rid of them. They were absolutely valueless as help to a surgeon, or as nurses, and were unwilling even to offer a drink of water to the patients. With regard to the hospital proper, I will quote some sentences from my report made to Chief-Surgeon Carter, United States army, at whose request I made the preliminary examination upon our arrival at this camp.

September 3, 1898.

SIR: I have the honor to report upon the sanitary condition found in the division hospital on our arrival on September 1, 1898, as follows:

I. *Location.*—The site of the hospital has been injudiciously selected for the following reasons:

1. The prevailing wind in summer being the southwest, south, and southeast, it blows from the ocean directly over the entire camp, toward and over the hospital tents.

2. The corral and ambulance stand being located due south from the hospital, the wind brings in all the flies which infest those places.

3. The roads leading to the hospital are of deep sand and stumps, uneven, and in places of such bad condition that shaking and jarring of the patients in the transfer can not be avoided.

4. The distance to the base of supplies and the

trains and the city is a considerable annoyance and a cause of great inconvenience in bringing fresh meat, milk, and other necessaries for the patients, on account of delays.

II. *Water Supply and Food.*—Although a pipe runs close to the hospital, there is but one faucet from which to draw water, and this is over a hundred paces from the nearest tent. The kegs and barrels containing drinking water were found to be in a filthy condition, full of floating particles of food and sand, and in the immediate vicinity of patients suffering from typhoid fever. The same applies to the milk. The walking and convalescent patients, orderlies, and stewards were in the habit of using their own cups and dipping the same directly into the barrel containing ice water. These barrels were not sterilized or disinfected, or even scalded with hot water for some time, and the contamination could not be avoided.

III. *Kitchen.*—The kitchen is placed halfway between the hospital and the corrals, the latter holding over eighty mules, and the flies, after worrying the animals and patients on either side, went over the food exposed for a considerable length of time, and *vice versa,* thereby infecting the kitchen utensils and food used by the patients suffering with malarial fevers and surgical and venereal diseases. The smoke and odor from the kitchen passed directly over the hospital tents.

IV. *General Sanitation.* — The condition in and about the wards was found to be deplorable. The soiled linen, sheets, pillows, and bedclothing of all descriptions was piled on a heap around every tent for exposure to the sun, and when dried by its rays was dusted out by handling it carelessly.

The bedpans and pails used by the patients were left in and about the wards for hours in the hot, broiling sun, and in the immediate vicinity of the barrels containing ice water and milk. The floor was left unprotected by boards or lime, and the patients were allowed to expectorate on the sand-covered ground.

V. *Condition of Patients.*—The patients were in the most unhygienic condition. Soiled linen was left underneath them. Bedsores were unattended to in sixteen cases, and their mouths and hands were unwashed. Some were lying deep in the poor spring-wire cots, almost upon the bare ground, doubled up, unable to move to either side, and were covered with flies and mosquitoes. Every patient was permitted to order and eat whatever he could obtain, and many were fed on hardtack, others ate fruits, such as oranges and lemons, which were left lying all around their cots and tables. The milk supply was insufficient, some patients obtaining only from two to three ounces twice a day. This deficiency had been partly remedied by giving them lemonade, coffee, and soups, which last alone could be considered nourishment, and was given by the kind-hearted ladies of the city.

VI. *Medication.*—Almost every patient was given quinine in large dose, some being deaf from its effects. I do not wish to go into details of my criticism of treatment, and therefore refrain from making a full report on this particular point.

Respectfully submitted, etc.

I can not pass this subject by without attempting to place the responsibility for this state of affairs where it properly belongs. That there was an unfortunate mistake committed in mustering in volunteer regiments intact is generally understood to-day, and every volunteer soldier will tell you why. But that the surgeon-general was deprived of the power to examine and select his own subordinates, who had the health of the troops and the lives of the patients in their charge, is beyond conception. The majority of the regimental volunteer surgeons were young and incompetent for field service, and the surgeons in charge, although able and willing, could not overcome this defect. The blame belongs to Congress, which passed the law.

The major, seeing that to keep the sick at such an infected locality would be wrong, pitched camp on the beach to the east of the Strathmore Hotel, and the patients were transferred to the old dancing pavilion, from which a beautiful view was obtainable over the Atlantic Ocean. This pavilion accommodated comfortably a hundred patients.

The change was made in such a way that those whose condition permitted of transfer were loaded with their own cots into an army ambulance, and one by one were carried to a beach nearly four miles distant without accident or mishap. In all, a hundred and six patients were thus transferred.

The effect of the sudden change from a hot, dirty, fly- and mosquito-infested place to a beach where, in the constantly changing sea breeze, they could enjoy the sight of the waves playing almost at their feet was magical. It exercised upon the patients an influence which only the record can explain. The first two days there was some depression, but in from forty-eight hours to three days all the sick appeared cheerful, their faces resumed a more natural color, and the enormous appetite which was aroused even in the apathetic, whose condition was quite serious, gave encouragement to the attendants and doctors. Some of the sick did not sleep for from ten to fourteen days prior to their removal on account of the mosquitoes. Having been placed by the major in charge of this hospital and assigned for duty from 8 A. M. to 4 P. M., when all the prescribing and orders for food were given, I had an excellent opportunity to exercise my judgment, and to order treatment according to my experience in Tampa. The record of this hospital shows a hundred and seventy-eight patients with not a single death between September 1st and 30th.

The staff consisted of two hospital stewards, United States army, one acting hospital steward, United States army, and about thirty-five volunteer hospital-corps men, eight female and two male nurses, four contract surgeons, one captain of volunteers as executive officer, and a chief surgeon, with the rank of major, United States army.

The question, What caused the spread of typhoid fever first among the regular troops and among the volunteers? occupied my mind from the first, and I believe that, having paid close attention to everything that was going on around, I can explain why the regular soldier, who usually keeps well under the most trying conditions, and who is accustomed to regular army rations, was affected just as much as the volunteer.

I noticed that the largest number of typhoid-fever cases among the regulars occurred in the cavalrymen. Now, this is not so hard to explain if we take into consideration: 1. That there are always some sporadic cases of typhoid fever about a large encampment. 2. That there are always some cases of typhoid fever in and around Tampa. 3. That the numberless flies that gather around horses find the pit and the kitchen, especially the brown sugar in the kitchen, which stood exposed for hours and was almost black with them, looking more like a bag or box full of raisins than sugar. 4. The natural inclination of soldiers to consume unwholesome food, such as pies and ice cream, which were made and sold by storekeepers regardless of the material and source from which the different ingredients, including the milk, came.

It was impossible to keep the flies from the already cooked food, even if a man kept one hand over it and ate it out of the other. Climatic conditions naturally prostrated the men to some extent, while dissipation, stale beer, and in many cases prolonged diarrhœa, made the men fit subjects for infection. The carelessness of the volunteer officers, who, instead of setting the privates a good example, were the first offenders, will prove how easily an epidemic may be started; and when it once gets hold of a camp the only remedy is to move that camp, which was done. The proximity of a large city to a military camp does not improve matters. A system run down by nocturnal excesses, dissipation, and probably venereal disease in addition, is liable to get infected very rapidly. The filthy and insanitary condition of the streets and saloons also contributed a great deal to diarrhœal trouble, which subsequently proved a predisposing cause, and to the malaise that usually precedes the fever. It would be a useless encroachment upon time and space to go into any further description of the many causes that led to the epidemic.

As almost all the cases were alike, the history of one will serve for all, and the treatment I shall sum up once for all in my conclusions. Suffice it to state that the proportion of disease was about seventy-eight per cent. of typhoid fever to twenty-two per cent. of all other diseases combined. Of these last, there were about ten per cent. of malarial fever, six per cent. of dysentery, three per cent. of venereal diseases, and one per cent. of surgical diseases other than venereal. To recapitulate, of the six hundred and fifty-eight cases treated in the two division hospitals, five hundred and thirteen were typhoid fever, or seventy-eight per cent., and the rest as described.

Symptoms.—The patients usually complained of diarrhœa for several days, with headache, some depression, weakness, and general discomfort. Quite a number of soldiers kept doing their duty until put on guard, when they suddenly noticed greater headache, dizziness, and fever, and had to report sick. This lasted from a few days to a week, when they were admitted to the regimental hospital, with loss of appetite, general confusion of ideas, and inability to stand upon their feet. There the surgeon found the fever to be from 102° to 104° F., with some enlargement of the spleen, meteorism, and the characteristic rosy spots (which, by the way, were present in almost ninety per cent.). The majority of the cases were transferred to the division hospital at once, so that we had only very little difficulty in making and corroborating the diagnosis of typhoid. In only a dozen or so of cases I had the opportunity to try the diazo reaction with my private supply of reagents until that gave out, when, as no fresh supplies were on hand, and not having even a microscope, the Widal test had to be abandoned.

The diazo reaction failed only once, and I believe that was on account of complication with malarial fever, and the fact that the length of the fever could not be determined accurately, the patient having been admitted to the regimental hospital on July 17th and treated with large doses of quinine for malaria to the extent of causing deafness, while he had all the symptoms of typhoid fever well marked on the 7th of August at his admission to the division hospital. The test took place on the 12th, almost a month from the beginning of his sickness.

The complications encountered were in the order named as follows: Diarrhœa in the great majority; simple tympanites in one hundred and ninety-eight cases, or 38.6 per cent.; extensive tympanites, with abdominal pain, in thirty-seven cases, or 7.2 per cent.; intestinal hæmorrhages in forty-two cases, giving eight per cent., four of which cases proved fatal; cerebral symptoms—*e. g.*, delirium, apathy, and coma vigil—in thirty-one cases, or six per cent.; muscular prostration and tremors in twenty-nine cases, or 5.6 per cent.; meningitis, with toxæmia, in two (both proving fatal), or 0.39 per cent.; pneumonia in four (of which one was fatal, from blood clot in the heart cavity); intestinal perforation in three cases (all fatal); parotiditis in one case, and alveolar abscess in one; furunculosis on the face in one—total, five hundred and thirteen cases of typhoid, with eleven deaths, the death-rate being 2.19 per cent.

It will be interesting to explain here that those addicted to alcohol suffered mostly from delirium and cerebral symptoms, while those addicted to the smoking of cigarettes suffered more from toxæmia, muscular prostration, and tympanites, with pain. These last named usually suffered relapse more than all other cases combined. In one particular case relapse was caused by half a dozen molasses candies eaten the fifth week of the sickness, when the patient was for one week convalescent. Sixteen cases of bedsores in the Fernandina camp developed prior to our arrival. As to the treatment of typhoid fever, I must say that in view of this remarkable record I have no explanation to make without going over the list of cases and giving each individual case treated separate consideration. This being impossible, I may state that the physician who undertakes the treatment of typhoid fever must have three main objects in view: 1. To treat every individual case according to the symptoms. 2. To study his case closely, and to find out if possible in the first forty-eight hours what kind of food the patient can assimilate. 3. To treat each case in the open air, with a trained nurse as his assistant, and with as little medicine as possible.

I. The patient should be put to bed at once and made comfortable. A hard bed with a water mattress is the best. Do not allow your patient to sink in a lot of feathers. Give him a bath and put him strictly on milk diet. There are no means to check or stop the course of typhoid fever, notwithstanding the assertion of many to the contrary, by internal medicines after the poison has once gained entrance into the system.

Whenever the temperature reaches 102° F., give a sponge bath; if it should reach 103° F., give a bath, and if still higher, rub a lump of ice over a wet towel applied to the chest and abdomen until the temperature is reduced. Adopt the Brand method as to baths. Patients like it after they get used to it, and will demand it whenever they feel uncomfortably warm. The benefit of the cold bath can be judged by the amount of urine excreted soon after. If too depressing, add alcohol to the bath and give half an ounce of brandy while in the bath tub. The diarrhœa is best controlled by the time-and-again-tried remedies, bismuth and salol. Give two grammes (thirty grains) of the former to five decigrammes (or eight grains) of the latter. I obtained excellent results from three doses in twenty-four hours.

II. I have seen patients dosed with all possible so-called intestinal antiseptics die in spite of all the heroic efforts to keep them alive, because the surgeon made it a routine business to give milk or lemonade to every patient. Now this is a serious question to consider. I will quote a few cases from my experience.

Case I.—B. H. R., private, Troop H, Fifth Cavalry. Third week of typhoid fever, some tympanites, increased always after ingestion of milk. Stools very offensive, showing curds of undigested milk. Tried peptonized milk with the same results, also beef broth, malted milk, and beef juice without material improvement. Finally gave him a cup of chicken soup, which he took with great appetite, and he was subsequently kept on this diet for three weeks to complete recovery.

Case II.—J. L., private, Troop A, Sixth Cavalry, same as preceding. This patient got well on liquid peptonoids.

Case III.—C. M., private, Troop H, Fifth Cavalry, same as foregoing. He vomited on seeing milk, but got well on beef juice in ice water, and later on imperial granum.

Case IV.—G. J. K., private, Company E, Fifth Ohio Volunteer Infantry, could keep nothing on his stomach, but had a great desire for an egg. As a matter of experiment I allowed him the egg. To my surprise, he kept it down, assimilated it without any rise in temperature or uncomfortable abdominal symptoms, and from that time on was kept on three eggs a day.

I could cite many cases of a similar character in support of my assertion that the first duty of the attending physician is to select food which will be easily assimilated, but I believe these four are sufficient.

III. It is absolutely necessary to have a trained nurse for day and one for night service, as complications arise very rapidly, and a fatal termination may take place without any forewarning.

I may here cite the case of an acting assistant surgeon, United States army. At 5 P. M. he felt better than on any previous day except as regarded the constant abdominal pain and slight tympanites. At 7 P. M. his temperature suddenly dropped below normal, his pulse rose to 150, and, although his condition was discovered at once, he died of septic peritonitis with perforation within five hours. Now, suppose that he had been left alone—he might have died much sooner, without anybody being able to give him any assistance whatever, as he was supported during those five hours solely by hypodermic stimulation.

The open-air treatment has been given the severest of trials, and has proved so effective that it can not be overlooked. The removal of patients in every condition and stage (except the hæmorrhagic) of typhoid fever for a distance of nearly four miles without a single loss, and with such remarkably rapid improvement in their general condition, must appeal to everybody for a trial.

Very little medicine, except for complications, is necessary for a typhoid-fever patient if the case is properly managed from the beginning. Stimulants should be resorted to from the beginning of the third week, brandy in three-drachm doses with four ounces of milk every three hours being about right. Later, a thirtieth of a grain of strychnine three times a day in addition goes far to make the patient throw off the typhoid-fever tongue. It may be given with the addition of fifteen drops of diluted hydrochloric acid.

In the treatment of complications I have already mentioned bismuth and salol as the best antidiarrhœal agents.

The next in the line of frequency is the treatment of hæmorrhages. I ordered an ice-bag filled with finely cracked ice, and renewed every twenty minutes, to the abdomen; and five drops of aromatic sulphuric acid in water. If the hæmorrhages were profuse, I added sixty minims of fluid extract of ergot and gave about a quarter of a grain of morphine hypodermically. The raising of the foot of the bed or cot, and even bandaging the limbs, should be resorted to in order to keep the heart going. Transfusion of salt water was also used, as was enteroclysis with normal salt solution. Cases in which tympanites occurs *without* pain do well on fifteen drops of turpentine and a turpentine stupe, but in no case of tympanites *with* pain should turpentine be used internally. Salol and bismuth, or guaiacol carbonate with bismuth in capsules, with lavage, and probably the passing of a rectal tube high up, as well as abdominal stupes with turpentine, will all be good agents to try, but you should always be on the lookout for perforation in this undesirable complication. For the cerebral symptoms, the ice-bag, general baths, and small doses of phenacetine are sufficient. In no case resort to opium. The muscular prostration can be overcome by alcoholic sponge baths with small doses of strychnine or tincture of nux vomica in water.

I have witnessed failures from the following remedies: The Woodbridge treatment; the iodo-phenol treatment; the indiscriminate dosing with quinine or calomel in abortive doses. The sulphocarbolates have failed in many cases, and the exclusive turpentine treatment has even proved fatal.

I came to the following conclusions:

1. The camp should be frequently changed.
2. The division hospital is here to stay, as only in this hospital can female nurses be employed, and
3. The proper person as attendant is the female nurse.
4. All soldiers should be educated in plain sanitary hygiene.
5. The sooner the patient takes to bed the fewer complications are likely to follow. The hæmorrhagic and perforation complications develop in patients who walk until they fall and who use indigestible food during the first stages of typhoid.
6. Milk is not suitable for every case; many of the patent foods on the market, especially "predigested" foods, must replace it in many cases.
7. Sugar used during convalescence will cause relapse quicker than solid food.
8. Every case requires special study.
9. The severest case, with hæmorrhages and other complications, may get well, while the lightest case, apparently doing well, may prove fatal. Never give up a case as hopeless.
10. All the patients in the southern camps showed a remarkably low pulse rate even with high temperature, for which I can not offer any explanation.

204 East Seventy-second Street.

The Interstate Medical Journal.—The *Tri-State Medical Journal and Practitioner* will henceforth see the light under the title of the *Interstate Medical Journal.*

A NASAL POLYPUS WEIGHING AN OUNCE, AND THREE INCHES AND A QUARTER LONG, SPRINGING FROM THE SÆPTUM NASI OF A CHILD OF TWELVE.

By H. R. COSTON, M. D.,
FAYETTEVILLE, TENN.

Through the courtesy of Dr. L. H. Gilham, of Kelso, Tennessee, I was permitted to operate in the following, in many respects, remarkable case:

Beulah H., aged twelve years; daughter of a farmer. Healthy until symptoms of present trouble began, about a year ago. Although the symptoms had been present for about a year no importance had been attached to them, and no physician had been asked to see her until one week before I saw her. When Dr. Gilham saw her he was told that she had an enlarged tonsil. Upon examination he found it to be a nasal polypus, the lower end of which was protruding half an inch below the margin of the velum pendulum palati. The right naris was filled with a polypus and the left was so obstructed by the polypus lying in the nasopharynx that she could get no breath through it. The left middle turbinate was also very greatly enlarged because of the inflamed condition of the mucosa covering it. Breathing was effected entirely through the mouth.

When I was asked to see her, one week later, I found her in substantially the same condition as described above, and with the assistance of Dr. Gilham, at their house, at once removed the growth by avulsion *manually.*

The nostril was so filled with the growth that it was impossible to pass the snare wire, and the growth was so large it could not have been withdrawn through the nose even had its base been severed by the wire. After spraying the nose and nasopharynx with cocaine, I fastened a tenaculum into the posterior surface of the pharyngeal portion of the growth and drew it downward and forward as far as possible, and grasped it with a heavy dressing forceps, but was unable, owing to the large size of the tumor and the location of the pedicle, to twist it off. I then pulled it out as far as I could, as before, and passed my fingers behind the tumor into the nasopharynx to the posterior nares, grasping the tumor firmly. I found it attached to the sæptum, just at the opening of the right posterior naris, by a pedicle the size of my little finger. Using my finger nail as a knife, and pulling hard on the tumor, I had no trouble in tearing it from its attachments and withdrawing it through the mouth, and with the nasopharyngeal tumor I brought out the one which had filled the right naris and two long, flattened polypi, which I believe to have lain in the nasopharyngeal space above and posterior to the large tumor. There was but little hæmorrhage, and the relief was very marked and immediate.

One week after the operation the inflammatory swelling of the right middle turbinate had subsided and the cure seemed perfect.

The body of the polypus, measured from the nasal to the pharyngeal extremities, was three inches and a quarter long; an inch and a quarter wide at the widest part, and seven eighths of an inch thick at the thickest part. It weighed, fresh, one ounce avoirdupois. It was nearly a pure myxoma. The anterior surface of the pharyngeal portion was roughened by the impact of food against it during deglutition. The smaller polypi measured an inch and a half long, but were very slender and flattened, as if they had been subjected to much pressure. The nasal lobe was large and filled completely the right naris, and had caused considerable external deformity of the nose by its pressure from within. The four polypi had one pedicle common to all.

There are several remakable features about this case, chief among which is the extremely large size, age considered.

Wright (1) describes a case in which the tumor—five inches long—projected into the pharynx, but this was in an adult and of twenty years' standing. He says others have been reported approximating it in size. He remarks also that congenital cases have been observed.

The youngest patient seen by Delavan (2) was thirteen years old. Delavan says, in the same essay, that in two hundred cases reported by Sir Morell Mackenzie, but sixteen patients were under twenty years of age. Holt (3) says "they are especially rare before the seventh year." Sajous (4) says they are seldom seen in children. Casselberry (5) thinks polypi are only relatively rare in children, "since the diseases which influence their development are somewhat less usual in children than in adults." He has seen them in children from eight years upward. Vogel (6) has removed a polypus from a child of four. He remarks (*loc. cit.*) that fibrous polypi may attain to such size as to hang down into the pharynx and embarrass respiration and deglutition. While he speaks thus of fibrous polypi, it is well to remember that my case is almost a pure, unmixed myxoma.

As bearing on the size, we may note that James (7) says they may attain such size as to completely obstruct the passages. My case certainly bears out this statement, because the lobe which lay posteriorly so completely filled the nasopharynx that the patient could get no breath through either nostril.

Another feature worthy of notice is the fact that the tumor had its origin from the sæptum.

"They almost never spring from the sæptum" (8).

Heinman (9) reports five cases of vascular polypi in patients of from two to fifty years old springing from the sæptum; these cases, however, differ from my own in being of the vascular type, while my case was almost avascular. Lefferts (10) says "true myxomata" (as in my own case) "are occasionally encountered springing from the side of the sæptum."

Another feature deserving mention is the method of removal—manual avulsion.

While every one to-day recognizes the usefulness of the snare, yet we will occasionally meet with cases not suited to its use, and, as Delavan (11) says, "no one instrument will be likely to meet the requirements of every case," we must be prepared to deal with the cases as they come, and in the words of Tillmanns (12), "The use of the forceps seems rougher to be sure, but it is simpler at all events, and accomplishes the object more quickly." Used with discretion, there is no reason why the forceps should do more harm than the snare.

In conclusion, I may sum up briefly the noticeable features thus:

1. The very large size of the polypus.
2. The age and sex of the patient—only twelve years old and a female.
3. Its origin from the sæptum nasi.
4. The removal by manual avulsion.

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A CASE OF PUERPERAL SEPTICÆMIA.*

By STEPHEN J. MAHER, M. D.,
NEW HAVEN, CONN.

In the following case the thing that is remarkable is the persistence and intensity of the fever. The temperature was alarmingly high for eight weeks.

On February 2, 1899, I delivered Mrs. M., aged twenty-seven years, a healthy primipara, of a daughter. The labor was normal. There was a slight rupture of the perinæum, which was not stitched. On my visit on February 3d I learned, somewhat to my surprise, that the nurse, an untrained woman, innocent of asepsis, had passed a catheter on the patient during the night. I enjoined the necessity of patience and cleanliness. Catheterism was repeated on the second and third days, and then the nurse left to care for another obstetric case. The mother of the patient, an old lady puffing and wheezing with bronchitis, tended the case for twenty-four hours. On the third night the patient did not sleep, and on the fourth day she had a chill. I called in the afternoon, and found a temperature of 103° F., a pulse of 120, headache and backache. There were no local symptoms. The lochia were not offensive. The bowels had been moved with castor oil the day before. I passed a catheter, ordered a vaginal douche of creolin, a phenacetine powder, large doses of quinine, and a calomel purge. I came around again in the evening prepared to curette the uterus, but the temperature had fallen to 100° F., and the entire absence of tenderness or pain in the abdomen made me postpone the operation. The next day she was deaf from the quinine, and with a temperature of 104.8° F., and very much worse in every way. There was now some pain in passing the catheter, and a purulent character to the rather slight vaginal discharge. There was also a tender spot in the abdomen close to the pubes and to the left of the median line. I gave her a thorough intra-uterine curetting and douching, and swabbed out the uterus with plain tincture of iodine. Five minutes after I had finished she had a frightful chill, her temperature rose to 105.5° F., and she became almost pulseless. I ordered half an ounce of iced whisky every half hour and drove off after a trained nurse. The story of the rest of the fever is best told by her temperature chart, which I hereby offer as an exhibit.*

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* Read before the New Haven Medical Society, April 19, 1899.

The abdominal tenderness disappeared in two days, but it was five weeks before there was the least desire on the part of the patient to pass urine. Of course, she was catheterized regularly. During the first two weeks she was curetted four times and received every day four or five intra-uterine douches. After the second curetting the result of the operation was nil, and the result of the douches was only to make her feel better and to reduce the temperature about a degree. In the third week the involution of the uterus proceeded very rapidly, and the discharge, which at no time had been great, though sometimes pronouncedly purulent in character, ceased entirely. During the second week she had a very copious purulent pharyngeal discharge, which, like the uterine discharge, proved to be practically a pure culture of staphylococci. Spraying menthol in oil into the nose and throat for a few days stopped the trouble in the pharynx. On March 15th, or during the sixth week of the fever, this same pus began to form in the pharynx again, to invade her Eustachian tubes and nares, and to cause an exfoliation of the mucous membrane of her mouth and throat. She was too weak to permit of thorough examination of her throat and nose, but so far as I could make it out the discharge was an exudate, not the result of the bursting of an abscess. It required a week of hydrogen peroxide and the menthol solution to clear this up. With the exception of this peculiar discharge from the pharynx, the slight discharge from the uterus, the vesical atony, and the short-lived tenderness over the bladder during the first week, there has been nothing in this case from beginning to end but fever.

What kind of fever was it? The first hope was that it would be malarial. Quinine was tried in large doses and small, in all sorts of ways, but it never had the slightest effect, except to deafen the patient. Examinations of the blood for protozoa toward the end of the case proved negative. The Widal test was tried with negative result; besides, there was nothing but the temperature chart to suggest typhoid; there was no headache, and there were no abdominal symptoms whatever.

The rapid respirations during a good part of the fever may suggest pulmonary trouble. During the second week and the sixth week there were a few days on which fine moist râles were audible over the bases of both lungs, and on one day during the sixth week there was a slight, painful cough; but at both times these symptoms and signs cleared up on the administration of small doses of digitalis.

Let me again return to that fever. During the first fortnight it averaged 104° F., several times almost reaching 106°, never going below 102°, and for one stretch of a week continuing night and day over 103°. Then came a few days in which there were two brief remissions to 99°, followed in two hours by leaps to 104°. These were succeeded by four long weeks during which the temperature averaged 103°, often going over 105°, and at six scattered half hours frightening me by sudden short drops to 99°. During the final two weeks, although the freaks of that temperature were the cause of much anxiety, the fever was evidently dying out. On April 4th, over eight weeks after the first chill, the temperature became normal and has remained so since. The patient, thank God, is now sitting up, eating beefsteak, but unable to stand, and emotional. When the throat symptoms of the patient were at their height, the nurse, the husband, and the physician, the only ones who had access to the sick-room, were attacked by a vicious little pharyngitis.

A few words as to the treatment: I have spoken of the intra-uterine douches during the first two weeks. During the third and fourth weeks either intra-uterine or vaginal douches were given two or three times a day, and during the night in conjunction with cold sponging or the cold pack, when the temperature reached 105° F. During the first two weeks the bladder was washed out every six hours after every catheterism—sometimes with plain water, sometimes with a weak solution of boric acid. Whenever the temperature reached 104° the cold sponge bath was given, and if the temperature proved obstinate the cold pack was used. On six or seven occasions it was necessary to keep the patient in a cold pack for three and four hours before the temperature dropped to 103°.

One evening the cold packing was begun at eight o'clock and with an intermission of an hour was continued until four o'clock the next morning. As there was no ice in the house that night, snow was used to keep the water cold enough to make an impression on the fever. All during the fever the patient had half an ounce of whisky every two hours; but at times of special stress, as when the pulse became faint and irregular at the height of the exacerbations of fever, and when, just as surely, the pulse disappeared from the wrist during the sudden drops, half an ounce of whisky was given every fifteen minutes. During at least eight days she drank a quart of whisky every twenty-four hours. One sixtieth of a grain of strychnine was given every three hours during the middle four weeks of the sickness, when the heart was weakest. Digitalis was not used except to relieve the setback in the lungs, on the occasion already referred to, and for the worst symptoms of cardiac distress.

During the first five weeks the diet consisted only of peptonized milk and milk and limewater. Then lamb and chicken broths were added. The giving of the first egg, March 22d, was followed by a sudden rise of temperature to 104° F., vomiting, and collapse. Whenever the temperature reached 104° the patient vomited, and afterward retained nothing but iced whisky until the thermometer registered only 103°. Except on the first two days of the attack none of the coal-tar feverreducers were used. Fear of their effect on that straining heart prevented.

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* An eight weeks' chart is rather a formidable document. I hope the analysis of it given below will be considered as doing away with the necessity of reproducing it in the *Journal*.—S. J. M.

A trial was made twice of the inunction of the Credé ointment of silver, that was spoken of so highly at the February meeting of the New York Academy of Medicine as a chemical antitoxine in cases of septicæmia. It had no effect on the temperature or the other symptoms in this case. On three nights a twenty-five-per-cent. solution of guaiacol in glycerin was painted generously over the abdomen to reduce the fever. It seemed to have some effect. The antistreptococcic serum was not used, because the late reports on this treatment are not encouraging, and because the infection in my case was caused by staphylococci. Hysterectomy was not suggested, because I considered that, after the first fortnight at the latest, the trouble was a systemic poisoning, no longer dependent on the condition of the uterus. Dr. Frank E. Beckwith kindly saw the case with me early in March.

The question of the source of the infection is always an important and interesting one. The facts that have to do with the answering of it in this case are, to my mind: The first nurse, after leaving my patient, was laid up for a week or more with an abscess in the mouth. When she passed the catheter, she poked it about in the vagina many times, with the mistaken notion that she had it in the urethra. There was in the beginning a deeper red and more swollen appearance to the parts about the mouth of the urethra than elsewhere in the vagina. The urethra itself became inflamed during the first week of the fever.

In defense of myself I can only say that I carefully scrubbed my hands with soap and carbolized water, using a nailbrush; that the forceps was not used; that not more than half a dozen examinations were made during the four hours of labor; that the external genitals were washed with plain soap and water before the first examination; and that somewhat elaborate precautions as to cleanliness were taken all during the labor. During the first two weeks of this case I refrained from obstetric work, but since then I have made several instrumental deliveries, and in none of the cases has there been the slightest rise of temperature.

I consider this patient the sickest one that I ever saw get well, and I consider that the principal therapeutic agencies in the case were the unusual intelligence and devotion of the trained nurse.

212 ORANGE STREET.

Therapeutical Notes.

The Sedative Action of Methylene Blue in Psychoses.—Bodoni (*Clinica medica italiana*, No. 4, April; *Riforma medica*, June 24th) concludes that methylene blue, from its power of calming cerebral excitement, diminishing maniacal agitation, and inducing a quiescent state, deserves a place in the therapeutics of various psychoses.

A Powder for Condylomata.—The *Riforma medica* for April 8th gives the following formula:

℞ Calomel	30 parts;
Boric acid	15 “
Salicylic acid	5 “

M. To be applied three times a day.

Chloroform as a Hæmostatic.—According to the *Journal de médecine de Paris* for July 2d, Dr. Spaak, of Brussels, has obtained excellent results from a mixture of two parts of chloroform with one hundred parts of water. This mixture is said to rapidly arrest hæmorrhage after tooth extraction.

Ointment for Hæmorrhoids.—Nehigan (*Der Frauenartz*, February 20th; *Therapeutic Gazette*, July 15th) prescribes the following ointment for hæmorrhoids:

℞ Compound tincture of camphor	1 drachm;
Camphor	1 “
Belladonna ointment	15 drachms.

M. To be applied directly to the painful part.

Iodoform Pencils.—The *Journal de médecine de Paris* for July 2d attributes the following prescription to Poinsot:

℞ Powdered iodoform, Gelatin,	equal parts.

These pencils are soft. Harder ones are made as follows:

℞ Iodoform, Cacao butter,	equal parts.

Massage of the Abdomen in Deficient Lacteal Secretion.—Schein (*Journal de médecine de Paris*, July 16th) lauds massage of the abdomen to increase a deficient lacteal secretion. It should be practised daily for half an hour or an hour, the movements being made upward from the pelvis to the breasts. With this may be associated massage of the breasts themselves. Schein's explanation is that the function of the mammary glands is intimately connected with the amount of blood brought to these glands from the genital organs by means of the vessels of the abdominal walls.

For Lupus Erythematosus.—The *Progrès médical* for June 17th attributes the following application to Brocq:

℞ Salicylic acid	15 grains;
Pyrogallic acid	45 “
Flexile collodion	600 “

M.

For Aortic Insufficiency in Acute Articular Rheumatism.—The *Riforma medica* for May 29th gives the following as Garrien's formula:

℞ Sparteine sulphate	1½ grain;
Syrup of digitalis, Syrup of bitter-orange peel,	of each, 450 grains;
Gum water	900 “

M. S.: A tablespoonful every four hours.

Atropine in Serous Diarrhœa of Nurslings.—The *Riforma medica* for June 23d gives the following:

℞ Sulphate of atropine	$\frac{1}{10}$ of a grain;
Distilled water	450 grains.

M.

From one to three drops may be given, but the general condition must be closely watched, and three drops must not be exceeded.

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THE CHOICE BETWEEN THE CÆSAREAN OPERATION AND *ACCOUCHEMENT FORCÉ* AFTER THE MOTHER'S DEATH.

It is just possible that the advances that have been made in recent years in the technics of the Cæsarean operation, whereby it has almost been robbed of its fatality, have led to such a degree of readiness to resort to it in the case of the living women, and a consequent utter lack of hesitation, to perform it on the dead, as may prove disastrous under certain circumstances, unless special precautions are taken. The danger was lately set forth somewhat graphically by Dr. Colle, at a meeting of the *Société centrale de médecine du Nord* (*Echo médical du Nord,* June 25th). Within a week of her expected confinement, a woman fell dead, in his presence, with symptoms of pulmonary embolism. He went home hastily to obtain the instruments necessary for the Cæsarean operation. It was fifteen or sixteen minutes before he got back to the dead woman. Then he rapidly incised the abdominal wall and that of the uterus, tore open the fœtal envelopes, and was fortunate enough to extract a child which, although cyanotic, soon began to breathe and was saved.

But an ugly rumor began its rounds; it was whispered that the doctor had killed the mother. This set M. Colle to thinking, and his reflections were not pleasant. He asked himself what material proof he should be able to offer that the woman had actually been dead at the time of the operation, in case he was accused; and prosecutions of physicians were so easily set on foot! At the meeting he mentioned these reflections and cited instances of women supposed to be dead who had regained consciousness during the Cæsarean operation. He was inclined, therefore, to prefer *accouchement forcé* in cases of the supposed death of the mother, for it could be performed at once, and the woman, if not really dead, be saved as well as the child, while the *accoucheur's* reputation was safe also.

M. Oui agreed with M. Colle that, after the mother's death, *accouchement forcé* was to be preferred to the Cæsarean operation, at least in private practice, for in the cutting operation the same precautions should be observed as if the mother were living, and that might really be the case. He cited Tarnier as having called attention to the very important consideration that it was always necessary to lose more or less time in obtaining the consent of the family to the performance of hysterotomy, whereas one could proceed at once to extraction *per vias naturales* and incur no reproach. M. Oui would use the forceps if he happened to have the instrument with him; otherwise there was but one resource, podalic version.

Perhaps the obstetrician of the present day may fairly be expected to go to a case of confinement prepared to perform the Cæsarean operation at short notice and with all the attention to detail that it requires, but certainly it can not be required of him that he should be thus ready in the case of a woman who, being in apparent health, falls dead in his presence while he is making an ordinary professional call on another member of the household, and is then ascertained to have been pregnant with a viable child—and this was M. Colle's experience. But the physician always has his hands with him, and can proceed instantly to dilate the cervix, rupture the membranes, turn by the feet, and extract—and that, too, without asking anybody's permission.

THE INGUINAL CANAL AS AN APPROACH TO THE ABDOMINAL CAVITY IN GYNÆCOLOGICAL OPERATIONS.

It has long been our conviction that most if not all of the various ingenious operations devised of late years to secure fixity of the uterus or to tether it according to the operator's estimate of what amount of mobility it was desirable to allow it—the multifarious forms of "fixation" and "suspension"—were not founded on sound principles. This view was ably upheld by Dr. Albert Goldspohn, of Chicago, in a paper presented before the Section in Obstetrics and Diseases of Women at the Columbus meeting of the American Medical Association and published in the association's *Journal* for July 22d. Dr. Goldspohn shows conclusively, it seems to us, that, in so far as these procedures are efficient, they are very prone to lead to serious complications in the event of subsequent parturition or invite intestinal strangulation, and that, in so far as they do not tend to bring about such troubles, they are rendered ineffectual by the evolution of the uterus in case pregnancy occurs. He would therefore limit all such operations to women who either are barren to begin with or can justifiably be made so at the time of the operation. Practically, he would restrict them to instances of decided prolapse giving rise to serious suffering.

There is one procedure, however, which Dr. Goldspohn thinks free from objection, that of shortening the round ligaments for retroversion, but it is an operation far more extensive than Alexander's. It resembles the Bassini operation for hernia and is called by the author the "improved and extended Alexander operation." He states that he first performed it in September, 1893, when he removed a diseased Falloppian tube and ovary through the internal inguinal ring. It was not until 1898 that he published a description of it, in the *American Gynæcological and Obstetrical Journal* for February of that year. In an Alexander operation he now always dilates the internal abdominal ring, if only for exploratory purposes. He is thus enabled to free the annexa if there are adhesions, remove the Falloppian tube with or without the ovary, raise and suspend a prolapsed ovary, or effect salpingostomy. In one instance he has removed a tubal-gestation sac, which was on the point of rupturing, leaving the ovary, the only one the woman had. He always closes the wound in the same way as after a Bassini operation for hernia, and thereby, he says, "We not only avoid the supervention of hernia, but incidentally cure a number of inguinal herniæ that are impending or are fully developed." From January 1, 1897, to May 29, 1899, he performed the operation sixty-five times, and without a death. Theoretical considerations seem to us to favor Dr. Goldspohn's method in cases in which a large opening into the abdomen is not required, and it appears not unreasonable to expect that his good results will be followed by many others, in his own practice and that of surgeons in general who have conservative tendencies.

THE RECRUDESCENCE OF SYPHILIS DUE TO INFLUENZA.

THE sequelæ of influenza are certainly protean. To one of them, the active recrudescence of latent or quiescent syphilis, Mr. J. Warrington Haward, F. R. C. S. Eng., surgeon to St. George's Hospital, London, particularly directs attention in the *Lancet* for July 1st. Influenza, he thinks, is comparable to malarial fever in its power to bring out some of the later manifestations of syphilis and to make manifest any latent syphilitic taint. He mentions the case of a woman, forty-two years old, who had been infected by her husband eighteen years before. She was intelligent and aware of the nature of her disease, and gave a very clear history of her symptoms. She had had a chancre on the vulva, followed by well-marked secondary symptoms which had lasted for a year and a half. For the following year she had remained free from symptoms, having been continually under treatment, but during the succeeding year she had again suffered from ulceration of the throat and skin, for which she had been treated. Then, so far as she could remember, she had remained well until the time of a recent attack of influenza, but in that attack rupial bullæ appeared over the body and developed into numerous and extensive ulcers. At the same time her hair fell out so that she became almost bald, and from an anæmic pallor her complexion became of a dull bistre tint. Then ulceration of the soft palate occurred, leading to an extensive perforation. A large periosteal node formed over the back of the radius, and subsequently she had ulcers between the toes.

The recurrence in this case, says Mr. Haward, was of unusual severity, but he adds that in other cases which he has observed there has seemed to be a special tendency to ulceration. This tendency and the proneness to breaking down and necrosis of inflammatory products, he remarks, are indications of lowered vitality, and they should be borne in mind as guides in the treatment. In such cases, he thinks, the calomel vapor bath will be found very efficacious. The recent occurrence of influenza he considers to be no bar to the administration of mercury, and in the cases he has observed he has found mercurial treatment to be always of the greatest benefit. He is convinced that, however remote the original syphilitic affection may have been, in nearly every case of syphilis in which fresh symptoms are evoked, benefit will result from the administration of mercury, and he thinks he has witnessed good results from the simultaneous employment of a fresh decoction of sarsaparilla.

SOME SURGICAL SEQUELÆ OF INFLUENZA.

WE seem to be constantly encountering new horrors to which the nosological monstrosity known as influenza may give rise. At the recent meeting of the German Society of Surgery (*Centralblatt für Chirurgie*, July 8th) Dr. F. Franke, of Brunswick, after mentioning several nervous affections which were apt to be mistaken for diseases susceptible of cure by operative procedures, to the discomfiture of everybody concerned, stated that he had seen six cases of perforating ulcer of the nose, four of which had come on during the course of influenza or immediately after it, and two in persons who had previously had the disease. He referred to purulent otitis and pleural empyema as being too well known to call for more than mention. The bone diseases, he thought, were usually benign, seldom terminating in suppuration and necrosis, the inflammation being ordinarily plastic. In two instances he had observed a nodose periostitis of the skull somewhat suggestive of gouty thickening of the ends of the phalanges and also of spina ventosa of the smaller long bones. The joint affections observed by him, he said, had invariably been of bony origin. The pains in the sole of the foot or in the heel so often complained of by influenza patients he attributed partly to inflammation of the plantar fascia, partly to plantar neuritis, and partly to periostitis of the calcaneum. The "swollen foot" (*Fussgeschwulst*), also of frequent occurrence, depended on osteitis of the tarsus or metatarsus. In a few cases he had seen non-purulent myositis, bursitis, and inflammation of the sheaths of tendons. His experience had been that rest was the great element in the treatment of these cases; for the plantar pains he recommended a soft-rubber sole stitched (not otherwise fastened) to the bottom of the shoe.

SUDDEN BLANCHING OF THE HAIR.

The subject of sudden changes in the hair occurring soon after a violent emotion, and apparently in consequence of it, is perhaps all the more interesting from the paucity of well-authenticated cases. An instance reported by Dr. F. Boissier in the *Progrès médical* for June 17th seems particularly noteworthy in some of its features. A healthy and vigorous peasant witnessed the horrible sight of his own child being apparently trampled to death by a mule. It turned out that the little fellow was only bruised, but of this the father was not aware, and he hastened away for assistance. While he was yet running he experienced, besides his terrible fright and anguish, a trembling sensation, palpitations, and a feeling of cold and tension in the face and on the head. The next day the hair of his head, his beard, and his eyebrows were shed in great masses; at the end of a week he was absolutely devoid of hair. Moreover, he had been of a very dark complexion and much sunburned, but his face became much paler. The hair began to grow again at once, at first in the form of a colorless down, but soon with the ordinary qualities of hair, save that it was more silky than the original hair and perfectly white. The hairy parts below the neck were not affected.

NAPOLEON'S IDEA OF THE ITCH.

Possibly the great Napoleon was a believer in the psoric origin of disease. The *Journal de médecine de Paris* for July 9th quotes the following from the *Gazette médicale de Paris* as having been attributed to him by General Gourgaud: "The itch is a terrible disease. I caught it at the siege of Toulon. Two cannoneers who had it were killed in front of me, and their blood covered me. It was badly treated, and I still had it in Italy and with the army in Egypt. On my return, Corvisart relieved me of it by applying three blisters to my chest, which brought about a salutary crisis. Before that I was lean and hungry-looking, but since then I have always been in good flesh."

MALARIAL AORTITIS.

M. Lancereaux appears to have discovered a new disease of the aorta. At a recent meeting of the Paris Academy of Medicine (*Indépendance médicale,* July 5th) he reported that he called it malarial, not only because it was met with almost exclusively in persons who had had attacks of intermittent fever and lived in malarious countries, but also because of its special features. It was encountered in subjects between thirty and sixty years old. It had its seat in the ascending portion of the arch of the aorta. It began in the outer coat, which became congested and thickened, and from that it spread to the middle coat and finally to the intima, which became thickened and affected with elevated patches. Among the consequences of these lesions he had observed inflammation of the adventitia, which might extend to the nerves of the cardiac plexus and occasion angina pectoris, also destruction of the middle coat leading to the formation of sacciform aneurysms. He described the course of malarial aortitis as very slow, and said that it did not begin until several years after the infection. It was necessary to distinguish it from arteriosclerosis and from syphilitic arteritis. The prognosis was grave, and the affection often terminated in sudden death. The preventive treatment consisted in a strengthening regimen and hydrotherapeutics; the curative, in the use of potassium iodide and milk. The angina pectoris was to be treated with calmatives, and aneurysm with subcutaneous injections of gelatin.

THE DILATATION TREATMENT OF PHIMOSIS.

Brisk dilatation, or, rather, dilaceration, of the terminal part of the prepuce has been practised to a considerable extent by some surgeons. Dr. Schilling, of Nuremberg (*Münchener medicinische Wochenschrift,* 1899, No. 11; *Wiener klinische Wochenschrift,* July 13th), reports a number of cases occurring in children in which gradual dilatation with sounds resulted in a permanent cure. In some of them the preputial orifice was originally very small.

PSEUDO-INFLUENZA.

No doubt the diagnosis of influenza is often made on insufficient grounds. Professor von Jaksch, of Prague (*Berliner klinische Wochenschrift,* 1899, No. 20; *Wiener klinische Wochenschrift,* July 13th), reports a number of cases of streptococcus pneumonia and diplococcus pneumonia in which the mistake was made. In his opinion, a case should not be said to be one of influenza until the typical bacillus has been found.

STEAM AS A HÆMOSTATIC APPLICATION TO THE LIVER.

The therapeutic efficiency of simple measures has been illustrated anew in certain experiments performed by Dr. Fiore and Dr. Giancola, an account of which is published in a supplement to the *Policlinico* and summarized in the *Deutsche Medizinal-Zeitung* for July 13th. They cut portions of the liver from eight dogs, in one instance as much as a whole lobe, and then applied to the bleeding surface a stream of steam, holding the nozzle of the apparatus about three inches away, so that the temperature of the steam as it impinged upon the liver was 158° F. Superficial coagulation took place in a few seconds. The usefulness of such a procedure in cases of wound of the liver in the human subject can hardly be doubted.

THE STUDY OF BOTANY IN THE VACATION SCHOOLS.

Science for July 7th publishes a statement by Miss Sanial, on behalf of the committee on nature study of the Torrey Botanical Club, to the effect that wild flowers are needed by the children in the vacation schools of New York. Persons living in the country around New

York will doubtless be glad to contribute such material. By writing to the board of education, labeling the communication "for vacation schools," they will obtain the necessary blanks.

THE CALIFORNIA LUNATIC ASYLUMS.

It is painful to learn of the serious charges against the management of the Agnews asylum, now under investigation by the board of managers of the institution, sitting jointly with the State lunacy commission. Not all that some of the newspapers have said seems borne out by the testimony thus far taken, but we can hardly avoid the conclusion that the asylum has been woefully mismanaged. A scandal concerning the Napa asylum is next to be investigated.

ITEMS.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending July 29, 1899:

Small-pox—United States.

Jacksonville, Fla.	July 3–22	5 cases.	
Louisville, Ky.	July 13–20	10 "	
New Orleans, La.	July 15–22	1 case.	
New York, N. Y.	July 15–22	3 cases.	
Cincinnati, Ohio	July 22	5 "	1 death.
Cleveland, Ohio	July 15–22	2 "	
Dayton, Ohio	July 15–22	2 "	
Pittsburgh, Pa.	July 15–22	1 case.	
Portsmouth, Va.	July 15–22	1 "	
Spokane, Wash.	July 15–22	1 "	

Small-pox—Foreign.

Antwerp, Belgium	July 1–8	3 cases,	1 death.
São Paulo, Brazil	June 27	Epidemic.	
Hongkong, China	May 27–June 3	3 cases,	1 "
Santiago, Cuba	July 1–8	1 case.	
Athens, Greece	July 1–8	13 cases,	5 deaths.
Bombay, India	June 20–27		14 "
Mexico, Mexico	June 9–16	10 "	5 "
Moscow, Russia	June 17–July 1	27 "	11 "
Warsaw, Russia	June 24–July 1		3 "
Straits Settlements, Singapore	June 10–17		1 death.
Montevideo, Uruguay	May 27–June 3	1 case.	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	June 9–16		5 deaths.
Panama, Colombia	June 4–13	10 cases,	4 "
Havana, Cuba	July 6–13		2 "
Manzanillo, Cuba	June 27	1 case in barracks.	
Santiago, Cuba	June 27–July 1	68 cases,	13 deaths.
Cordova, Mexico	June 27–July 1	17 "	9 "
Tampico, Mexico	July 1–7	1 case,	1 death.
Vera Cruz, Mexico	July 13–20		17 deaths.

Cholera.

Calcutta, India	June 10–17		6 deaths.
Osaka and Hioga, Japan	June 10–17	1 case,	1 death.

Plague.

Hongkong, China	May 27–June 3	22 cases,	97 deaths.
Alexandria, Egypt	July 6	One or two new cases daily.	
Bombay, India	June 20–27		50 deaths.
Calcutta, India	June 10–18		9 "
Straits Settlements, Penang	June 10–17	11 cases,	3 "
Straits Settlements, Singapore	June 10–17		1 death.

Changes of Address.—Dr. J. N. F. Elliot, to No. 421 South Warren Street, Syracuse, New York; Dr. Michael Lucid, to No. 401 Montgomery Street, Syracuse, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 22 to July 29, 1899:*

Ashford, Bailey K., First Lieutenant and Assistant Surgeon, United States Army, is detailed as an additional member of the board of officers convened by Par. 3, S. O. 135, c. s., *vice* Wells, George M., Captain and Assistant Surgeon, United States Army, relieved.

Bailey, Guy G., Acting Assistant Surgeon, United States Army, will proceed from Mackinac Island, Michigan, to San Francisco for temporary duty.

Craig, Charles F., Acting Assistant Surgeon, United States Army, will proceed to Havana for duty at Camp Columbia, Cuba.

Devereux, John R., Acting Assistant Surgeon, United States Army, will proceed from Fort Hamilton, New York, to Camp Meade, Middletown, Pennsylvania, for duty at the camp hospital.

Disney, F. A. E., Acting Assistant Surgeon, United States Army, will proceed to Camp Meade, Middletown, to accompany the Nineteenth Infantry to Manila.

Duval, Douglas F., First Lieutenant and Assistant Surgeon, United States Army, is granted leave of absence for one month.

Ewing, Charles B., Captain and Assistant Surgeon, United States Army, is relieved from further duty at Fort Brady, Michigan, and will proceed to San Francisco for duty with the Third United States Cavalry upon its arrival.

Heizmann, Charles L., Major and Surgeon, United States Army, is assigned to duty as chief surgeon, Department of Texas.

Kneedler, William L., Major and Brigade Surgeon, United States Volunteers, is relieved from further duty in this division, and will comply with the instructions contained in Par. 40, S. O. 129, c. s., H. Q. A.

Maus, Louis M., Major and Surgeon, United States Army, is detailed temporarily as a member of the army retiring board ordered to meet at Governor's Island, New York, by Par. 1, S. O. 150, during the absence of Howard, Deane C., Captain and Assistant Surgeon, United States Army.

McCulloch, T. A., Acting Assistant Surgeon, United States Army, will report to Cress, George O., Captain, Fourth Cavalry, on the transport *Tacoma*, for duty on that ship during the voyage to Manila, and return to San Francisco.

Woodruff, Charles E., Captain and Assistant Surgeon, United States Army, will proceed by the first available transport to Manila.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending July 29, 1899:*

Atlee, L. W., Surgeon. Detached from the *Bennington* and ordered home *via Solace.*

Dunn, H. A., Assistant Surgeon. Detached from the *Panther* and ordered to the Washington Navy Yard.

Johnson, M. K., Passed Assistant Surgeon. Detached from the Naval Hospital, New York, and ordered to the *Marietta.*

Lippitt, T. M., Assistant Surgeon. Detached from the *Solace* and ordered to the *Baltimore.*

PLUMMER, R. W., Assistant Surgeon. Ordered to the Naval Hospital, New York.

ROSS, J. W., Surgeon, retired. Granted leave of absence for one year abroad.

ROTHGANGER, G., Passed Assistant Surgeon. Detached from the *Marietta* and ordered home to await orders.

VON WEDEKIND, L. L., Passed Assistant Surgeon. Detached from the hospital at Cavite, Philippine Islands, and ordered to Mare Island, California.

WHEELER, W. M., Assistant Surgeon. Ordered home to the United States to await orders when discharged from the hospital at Yokohama, Japan.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending July 27, 1899:*

MEAD, F. W., Surgeon. To proceed to New York and assume temporary charge of the Purveying Depot.

GEDDINGS, H. D., Passed Assistant Surgeon. Relieved temporarily from duty on the commission for the scientific investigation of yellow fever and assigned to temporary duty in the Hygienic Laboratory. To proceed to Boston for special temporary duty.

PERRY, J. C., Passed Assistant Surgeon. Detailed for duty in the office of the United States Consul at Hongkong, China.

GARDNER, C. H., Passed Assistant Surgeon. To assume temporary charge of the Port Townsend Quarantine.

SPRAGUE, E. K., Passed Assistant Surgeon. Granted leave of absence for twenty-seven days from August 7, 1899.

WICKES, H. W., Passed Assistant Surgeon. Granted leave of absence for thirty days from August 6, 1899.

TABB, S. R., Assistant Surgeon. Upon being relieved from duty at Baltimore, to proceed to Savannah and assume command of the service.

FOSTER, M. H., Assistant Surgeon. Upon being relieved from duty at Savannah, to proceed to the Port Townsend Quarantine Station and report to the commanding officer for duty.

LUMSDEN, L. L., Assistant Surgeon. To proceed to Port Townsend, Washington, and assume temporary charge of the service.

BILLINGS, W. C., Assistant Surgeon. Relieved from duty at the Immigration Depot and directed to report to the commanding officer at New York for duty and assignment to quarters.

FOX, CARROLL, Assistant Surgeon. To report to the commanding officer at Baltimore for duty and assignment to quarters.

MCCLINTIC, T. B., Assistant Surgeon. To report to the commanding officer, Cape Charles Quarantine, for duty and assignment to quarters.

CURRIE, D. H., Assistant Surgeon. To report to the commanding officer at Louisville for duty and assignment to quarters.

GOLDBERGER, JOSEPH, Assistant Surgeon. To report to Surgeon L. L. WILLIAMS, Immigration Depot, New York, for duty.

KORN, WILLIAM A., Assistant Surgeon. To report to the commanding officer, Chicago, for duty and assignment to quarters.

HOLT, J. M., Assistant Surgeon. To report to the commanding officer, St. Louis, for duty and assignment to quarters.

TROTTER, F. E., Assistant Surgeon. To report to Surgeon L. L. WILLIAMS, Immigration Depot, New York, for duty.

VOGEL, C. W., Assistant Surgeon. To report to the commanding officer, Boston, for temporary duty and assignment to quarters.

TUTTLE, JAY, Acting Assistant Surgeon. Granted leave of absence for seven days.

Promotions.

GAHN, HENRY, Hospital Steward. To be hospital steward and chemist.

STEARNS, W. L., Hospital Steward. To be hospital steward and assistant chemist.

Appointments.

FOX, CARROLL, of Pennsylvania, commissioned as assistant surgeon.

MCCLINTIC, THOMAS B., of New York, commissioned as assistant surgeon.

CURRIE, DONALD H., of Missouri, commissioned as assistant surgeon.

GOLDBERGER, JOSEPH, of Pennsylvania, commissioned as assistant surgeon.

KORN, WILLIAM A., of New Jersey, commissioned as assistant surgeon.

HOLT, JOHN M., of New York, commissioned as assistant surgeon.

TROTTER, FREDERICK E., of New York, commissioned as assistant surgeon.

VOGEL, CHARLES W., of Maryland, commissioned as assistant surgeon.

Births, Marriages, and Deaths.

Married.

AUSTIN—BUSH.—In Terry, Mississippi, on Wednesday, July 26th, Dr. W. G. Austin, of Utica, Mississippi, and Miss Ada Bush.

MCLAUGHLIN—GREENE.—In Westfield, Massachusetts, on Wednesday, July 26th, Dr. James S. McLaughlin and Miss Mary E. Greene.

Died.

BADGER.—In Boston, on Monday, July 24th, Dr. George A. Badger, in the seventieth year of his age.

CHARBONNET.—In New Orleans, on Sunday, July 23d, Dr. J. Numa Charbonnet, in the thirty-fourth year of his age.

LOMAX.—In Troy, New York, on Saturday, July 22d, Dr. Joseph D. Lomax, in the seventy-second year of his age.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

BY ARTHUR N. TAYLOR, LL. B.

XXX.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(*Continued from page 172.*)

Right to Leave Practice Temporarily.—The preceding question brings us to the consideration of when and under what circumstances the physician may with legal safety go away and leave his practice. The law books show very few cases throwing light upon this question, which probably argues that physicians exercise great care in determining when they may safely leave their practice, and also in selecting competent substitutes to whose care the health and lives of their patients are to be temporarily intrusted.

As a general rule it can be laid down that a physician should never go away and leave his practice without arranging for some competent physician to attend his patients,* but under what circumstances and conditions he is justified in leaving his patients in the care of such a physician is not quite so clear.

It is very easy to see upon principle that a physician, possessing adequate skill and knowledge to enable him to understand the condition of his patients, who, by the careful exercise of his good judgment, determines with a reasonable degree of certainty that they are beyond the point of danger, may safely leave them under the care of a competent substitute; but whether the law will require so high a test of care is doubted. We have but just quoted an instruction from Justice Pryor, in which he said: "The defendant swears that at his last visit he notified the plaintiff that he was going out of town, and indicated to her a physician who would attend her in his stead. If this statement be true, the defendant's absence is excused, and you must exonerate him from this imputation of neglect." † While in this case the patient was without doubt in grave need of medical attendance, yet there is no evidence shown in the report that her life was in imminent danger or that she was even in a critical condition. And, again, in the case of Dashiell *vs.* Griffith,‡ Justice Roberts says: "If the defendant had in his treatment of the finger, prior to the 24th of February, exercised reasonable care, skill, and diligence, and then, because of the illness of his father, had turned the plaintiff over to Dr. ——, a competent physician, for the further treatment of her finger, and the plaintiff refused to go to Dr. —— for treatment, then the liability of the defendant ceased." But here again the plaintiff was merely suffering from a felon, and when the defendant last saw the patient it was thought that the diseased member was doing as well as might be expected. In the case of Ewing *vs.* Goode,# decided in the United States circuit court, the defendant had operated upon the plaintiff for a cataract. The operation took place on the 25th of September; it was characterized a smooth and successful operation, and the wound was quite healed in about ten days. About the 19th of November following the plaintiff complained of pain in the eye; the defendant carefully explored the eye with the ophthalmoscope, but could discover no cause for the pain. The pain continued, and repeated examinations were made at short intervals apart, but, as no cause for the pain could be found in the eye, it was diagnosticated as neuralgia of the fifth nerve and treated as such. On the 9th of December the defendant thought he saw a slight increase in the tension of the eye, but was doubtful about it. This was a symptom indicating glaucoma, and one for which the eye had been carefully examined at short intervals since the pain commenced; the defendant accordingly prescribed eserine. On the 10th of December the defendant examined the eye again and found no increased tension and no other evidence of a glaucomatous condition, though the pains continued. On the 11th of December he confirmed his conclusion that there was no increased tension by making another examination. After this he remained in the city until the 18th of December, and receiving no calls from the plaintiff went away, leaving his practice in the hands of a competent physician, who understood the plaintiff's case and had assisted in the operation on the eye and had examined it after the pain commenced. On January 6th the defendant returned and found an increased tension amounting to + 1 and distinct symptoms of glaucoma. An operation was promptly performed with the hope of relieving the pain and retaining the eyeball. This operation proving unsuccessful in accomplishing the desired effect, the eyeball was finally extracted. The court gave special attention to the right of the defendant to leave his practice on the 18th of December as he did. After carefully reviewing all of the above facts, Judge Taft said: "As to the right of (the defendant) to leave the city on the 18th of December, when his patient had not called him for a week, and while she was presumably following the precautionary and alleviating prescriptions of eserine and phenacetine, I do not think there can be any doubt, if he made provisions for the attendance of a competent oculist in case of a call."

All of the cases cited above are those in which the physician's right to temporarily leave his practice is upheld, and a careful examination of the reports has failed to discover a precedent in which the right of the physician to leave his practice in the hands of another competent physician is denied; yet it seems that the right to leave one's practice should depend upon the same principles which ordinarily are applied as a test of liability—viz., if the physician, by the careful exercise of ordinary skill and knowledge, believes that he may safely leave his patients to the care of another, he will be justified in so doing; if, on the other hand, a patient's condition is such that a physician in his best judgment thinks a change of physicians would be injurious, nothing short of dire necessity should induce him to permit the substitution.

Liability of Physician for Negligence of One whom he Recommends.—Having determined that the physician has under ordinary circumstances the right to leave his practice in the hands of a competent substitute, it becomes pertinent to consider what, if any, responsibility such physician bears for the acts of his substitute. Should the physician recommended be in a legal sense the agent of the physician recommending him,—that is, if he is employed by him as an assistant—then the law applies the legal maxim *qui facit per alium facit per se*, and holds the recommending physician liable for all negligent or improper professional conduct of his agent. But if, on the other hand, the physician recommended is in independent practice, and is properly esteemed a man of ordinary professional ability and of proper discretion, the physician recommending him will not be held responsible for any error he may commit.

When a regular railroad physician, upon going away for a short time, gave instructions that if anything happened the railroad company should call upon a certain other doctor, and an accident did occur and the desig-

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* Pelky *vs.* Palmer, 67 N. W., 561; 109 Mich., 561.

† Becker *vs.* Janinski, 27 Abb. N. C., 45.

‡ Dashiell *vs.* Griffith, 84 Md., 363.

Ewing *vs.* Goode, 78 Fed., 402.

nated physician was called in and improperly treated the case, it was held that the regular physician was not liable for such improper treatment, there being no evidence to show that the physician recommended was in the employ of the defendant.*

In the case of Meyers *vs.* Holborn,† a physician promised to attend a patient during confinement. A short time before the event took place he left the city for a three days' vacation, but first visited the patient and made an examination of her condition, from which he concluded that his services would not be required for several days. During his absence, however, the child was born, and according to arrangements made by the defendant, before leaving, the patient was attended by another physician, who severed the umbilical cord so near the child's body that it was impossible to tie it, in consequence of which the child died. An action was brought by the husband against the physician employed to attend the case for this negligence of his substitute, but the liability was denied by the court, which, speaking through Justice Gummere, said: "Dr. —— (the physician recommended to attend the patient) and the defendant were each of them practising physicians within the State, having no business connections with one another, except that Dr. —— was attending the patients of the latter while he was temporarily absent. Even if it be admitted, therefore, that Dr. —— was employed by the defendant to attend upon the wife of the plaintiff, that fact did not render the defendant liable for his neglect or want of skill in the performance of his service, for an examination of the authorities will show that a party employing a person who follows a distinct and independent occupation of his own is not responsible for the negligent or improper act of the other."

It will be observed from the foregoing opinion that in New Jersey the courts go so far as to hold that a physician can not be held for the negligence of another physician whom he employs to perform certain professional services, if such other physician has a distinct and independent practice. While there is no question about the correctness of the principle of law by which the court arrived at this conclusion, it is doubted whether the courts of other States will find the principle applicable to this particular condition; therefore, a physician can not be safely advised to employ another physician to attend to his practice, even though such other physician does enjoy an independent practice, if he desires to escape liability for the professional errors of such other physician.

A question which might be suggested by those preceding is one which arose in the case of Jones *vs.* Vroom.‡ In this case the defendant, a physician in general practice, who was attending the plaintiff for typhoid fever, was informed by her that she had a pain in one of her eyes and that the sight was beginning to leave it, and was asked to send her an oculist. The defendant laughed at her, and told her there was nothing the matter with the eye, but upon further request promised to send her an oculist. He did not comply with the request, however, and as an excuse for not doing so said he had forgotten the matter. Finally the nurse telephoned for an oculist, who said, upon examining the eye, that he could do nothing for it, but that he might have done something if he had been sent for sooner. The plaintiff sued the defendant for not securing the oculist when requested, but the defendant's liability was denied. The court said: "The defendant was employed to treat her for fever, and his employment imposed no duty on him to provide her with a specialist for her eye." This case was tried simply upon the question indicated in this quotation; it therefore is possible that other questions might have been raised upon which a different decision could be reasonably expected. Any way, it is never safe for one to undertake to do a thing without fulfilling the agreement, whether there is a consideration or not, and a physician can not safely ignore complaints regarding conditions which by any probability relate to the condition for which he is treating the patient.

(To be continued.)

Pith of Current Literature.

The Serum Treatment of Typhoid.—A London correspondent of the *Interstate Medical Journal* for July writes that the main point of interest centres round the serum-treatment experiments which are being conducted in different parts of the world. One of the late commissioners, Professor A. E. Wright, of the Army Medical School, Netley, took advantage of his visit to the typhoid districts of India to avail himself of the opportunity of inoculating certain British troops against this dread enemy of the soldier on foreign service. It appears that in the "West Riding" regiment, stationed at Bangalore, two hundred and fifty of the soldiers volunteered to be inoculated with the typhoid serum as a protectionary or prophylactic measure. When at Rawal Pindi, Dr. Wright addressed the "Queen's" regiment on the advantages of inoculation, mentioning that fifteen hundred soldiers are annually ill with enteric fever, and that one out of every five dies. Out of two hundred attendants at the Maidstone Asylum in Kent in the south of England, ninety-five persons were inoculated and none contracted fever, while of those who refused to undergo the process, nineteen suffered from the disease. At Khartoum, of eight young subalterns, six consented to inoculations, and the other two agreed to take their chance; of these latter, one was very ill with typhoid, the other died; the inoculated officers escaped. Professor Wright also inoculated the troops in garrison at Lucknow, three hundred of the third Hussars and one hundred and twenty Cameronians. Diligent experiments are being made with the typhoid serum in more than one physiological laboratory in this country.

The Pathogenesis of Strabismus.—Dr. Alexander Duane (*Archives of Ophthalmology*, May) concludes an intersting paper as follows: Exophoria and divergent squint may be due to: 1. Underaction of an adductor (insufficiency in the true sense of the word) or overaction of an abductor, due to abnormities in structure, insertion, or innervation (*muscular squint* or *exophoria*). Not very frequent by itself, but frequent as a complication. 2. Overaction of the diverging power (*divergence excess*). Fairly common. 3. Underaction of convergence (*convergence insufficiency*). Very frequent. May be either accommodative (in myopes) or non-accommodative. 4. One or more of the above anomalies combined (*mixed conditions*). Such a combination usually obtains in long-standing and marked cases of concomitant divergent squint. Esophoria and convergent squint may be due to: 1. Underaction of an abductor (true insufficiency) or overaction of an adductor, due to abnormities in structure, insertion, or innervation (*muscular squint* or *esophoria*). Not very common by itself, but frequent as a complication. 2. Overaction of convergence (*convergence excess*). Very frequent. May be either accommodative (in hypermetropes) or non-accommodative. 3. Underaction of the diverging power (*divergence insufficiency*). Rare. 4. One or more of the above causes combined (*mixed conditions*). Such a combination usually obtains in long-standing and marked cases of concomitant convergent squint. It is by following an ætiological classification like this that we attain, in my belief, the best success in both diagnosis and treatment.

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* Hitchcock *vs.* Burgett, 38 Mich., 501.

† Meyers *vs.* Holborn, 29 Vroom, 193, 33 Atl. Rep., 389.

‡ Jones *vs.* Vroom, 8 Colo App., 143.

Holocaine versus Cocaine in Ophthalmic Surgery and Diseases.—Dr. Hermann Knapp (*Archives of Ophthalmology*, May) draws the following comparisons between holocaine and cocaine:

1. Holocaine is as powerful a local anæsthetic as cocaine; over which it has several marked advantages:

a. It acts (one-per-cent. solution) in a shorter time, a third to one minute, which makes its use very valuable, particularly if we want to anæsthetize the iris. After a corneal section, either for a glaucoma or cataract operation, we can readily anæsthetize the iris by pressing the wound open and letting one or two drops fall into the gap to reach the iris.

b. It does not interfere with the circulation, which accounts for its alleged germicide properties. Blood being the best safeguard against infection, the outflow of blood during the operation carries also the germs away from the wound. It is a very old experience that wounds for the extraction of cataracts that bleed never were seen to suppurate. Cocaine, by its constriction of the blood-vessels and other tissues, sucks tissue juice and germs inward, and thus favors infection. Cocaine, causing anæmia, *has the advantage over holocaine*, first, *in the diagnosis of vascular organs*—for instance, the swelling of the turbinals of the nasal passages—and secondly, *in facilitating the performance of operation.* A combination of the two may unite the advantages of both.

c. Holocaine does not dry the cornea so much as cocaine does. Dr. Knapp can not confirm the statement of authors that it does not dry the cornea at all. Holocaine, not interfering with the circulation, possibly dries the cornea only because the anæsthesia gives no incentive to winking. Be this as it may, he has often noticed in cataract extractions that he had to let a drop of liquid fall on the cornea after holocaine anæsthesia as well as after that of cocaine, only not in the same degree.

2. For operative work on the eye, especially on the cornea, I have almost completely substituted holocaine for cocaine. For the removal of foreign bodies holocaine is an ideal anæsthetic. It renders the cornea insensible in half a minute, and does not suck in germs that may have contaminated the foreign body.

3. Cocaine is an anæsthetic but no remedy. In all painful diseases of the outer coats of the eye, it ought to be replaced by holocaine. If in contagious ophthalmia we instil cocaine into the conjunctival sac, we may relieve the pain, but with the tissue juice the germs are sucked deeper; not so in using holocaine. When the surgeon of to-day has cut his finger with a knife passed through tissue of doubtful purity, he no longer burns that wound out, but makes it bleed. Holocaine can be combined with topical remedies, but Dr. Knapp would not countenance the popular combination of cocaine with astringents.

4. As to holocaine being a strong germicide and an excellent remedy for septic ulcers of the cornea, as advanced by Hasket Derby, the author can say that he has seen good results from the combined use of holocaine with antiseptics and caustics; holocaine alone also has had a good influence, but in his practice not in so large a proportion as Derby states.

Dr. Knapp concludes by saying that in holocaine we have not only an *excellent local anæsthetic*, but also a valuable *therapeutic adjuvant* in combination with other remedies.

An Absorbable Intestinal Coupler.—At a meeting of the Chicago Medical Society, held on May 24th, Dr. Jacob Frank (*Chicago Medical Recorder*, July) read a paper on an absorbable intestinal coupler invented by him and designed to replace the Murphy button.

The apparatus consists of two decalcified bone collars with four needle-hole perforations at the apex or shoulder of each collar, and one piece of ordinary pure gum-rubber tubing, of the kind used for drainage, large enough to just fit inside of the coupler. It is prepared for use in the following manner: A collar is slipped over a piece of rubber hose until the apex is brought to a level with the end of the tubing, when an ordinary medium-sized curved needle, threaded with silk, is carried through each opening and tied; this, as can readily be seen, fastens the collar to the tube; the other collar is next fitted snugly to the one already fastened, and is then in like manner sewed to the other end of the tube and placed in absolute alcohol until they are to be used. The rubber tubing to which the collars have been sewed, being hollow, serves subsequently for the passage of the intestinal contents after being placed *in situ.* The couplers are made in eight different sizes, the rubber hose corresponding to the size of the coupler.

The bases of the collars, which are formed into a broadened rim, are held firmly in apposition throughout their entire circumference, after being sewed to the rubber. The intestinal ends are brought over each collar and crowded within the line of junction of the two; of necessity the latter are forced apart, and the rubber tube is put upon the stretch, thus affording pressure of adequate amount to cause a necrosis of the interposed intestines. The collars dissolve in due course of time and but a small piece of rubber tubing is left in the intestinal canal to pass off with the fæces. Even if retained, the rubber will become macerated, as it is composed of vegetable substances.

The collars are carved from long compact bones which are obtained from oxen. They are then subjected to the decalcifying fluid, which consists of a ten-per-cent. solution of absolute hydrochloric acid, and are removed from this fluid in six hours and placed under a stream of cold water for half an hour to remove the salts which have formed. They are then placed in a fresh decalcifying fluid of the same strength, or less as required, and the process is repeated until they are completely deprived of their calcareous constituents, when they are washed with cold running water, so that all traces of acids and phosphates are removed and the collars have acquired an almost transparent appearance. Then they are practically dehydrated by treatment with pure cologne spirits, and finally immersed in absolute alcohol, which renders them sufficiently tenacious for their purpose. In order to insure against shrinkage, they are not sewed together for use until they have been kept in absolute alcohol for from one to two weeks.

The coupler is used in the following manner: Murphy's puckering string is placed about each severed end of the intestine. The operator slips an intestinal end over one of the collars, to the line of junction, at the same time gently spreading the collars apart to facilitate the easy access of the gut. An assistant takes charge of the ends of the puckering string, and when the gut has been brought over the collar he makes one knot, and draws down until his puckering ligature strikes the rubber tubing, which he will perceive by the resistance offered; the tube will not permit too tight drawing of the puckering ligature on account of its resiliency. The second knot is tied and cut short. The other intestinal end is then slipped over the other collar and tied in the same manner. The ligature is cut off short and the clamps are immediately removed, when the operated portion of the bowel will be slowly distended with gas. An interrupted Lembert suture should be taken around the border, with an intestinal needle threaded with No. 2 silk, to make the work more secure. The rent in the mesentery should be sewed.

For gastro-enterostomy, or side-to-side anastomosis, Murphy's method can be used—that is, placing the puckering string before opening the viscus, but the author prefers to make the opening into the intestine or stomach first and then take the suture by the over-and-over method. In opening the intestine longitudinally or transversely, it is very common for the mucous membrane to roll out. Should this be the case, he advises the removal of the everted mucosa with either the scissors or curette, before taking the suture, as it will insure a much more satisfactory, cleaner, and safer operation.

In the discussion which followed, Dr. Carl Beck reported having used Frank's coupler with success. Dr. J. B. Murphy, while combating the idea that any other than exceptional danger attached to the use of his button, said, with reference to Dr. Frank's coupler, if it could be so decalcified that he could regulate the length of time it would last before being dissolved, it was, in his opinion, theoretically the best device that had so far been brought forward for intestinal anastomosis, and he congratulated Dr. Frank. The line of union produced by pressure approximation was certainly the most satisfactory.

Menstruation by the Ear.—M. Lermoyez (*Presse médicale*, July 15th) recently reported to the *Société médicale des hôpitaux* the case of a young girl in whom menstruation had been established three years previously, the flow taking place from the right ear. Regularly every month, after a period of prodromes consisting of headache and general lassitude, a flow of clear non-coagulable blood took place from the right ear, in which no preexisting local lesion could be determined. After three years the ordinary genital discharge began to take place, gradually replacing that from the ear, which only occurred every two or three months. The author remarks that the nature of the auricular hæmorrhage admitted of no doubt, being periodical, preceded by a regular local molimen, and the blood being non-coagulable. As to the ear, the blood came from the walls, the tympanum being intact. Hysteria would naturally be thought of, yet the patient showed none of the ordinary stigmata of that disease. The author, nevertheless, considered this auricular menstruation as in all probability of that nature, for on the side of the bleeding ear there was slight hyperæsthesia of the tympanum and auditory canal, as well as a certain degree of auditory anæsthesia; and the coincidence of these symptoms is, according to the author, one of the best signs of auricular hysteria that we have.

Appendicular Inflammation as a Cause of Inflammatory Disease of the Right Ovary and Tube.—Dr. A. J. Ochsner (*Journal of the American Medical Association*, July 22d) thus sums up a paper presented to the meeting of the American Medical Association: "Judging from this year's experience, as well as from my very much larger former observations, I am certain that the matter of secondary infection, especially of the right ovary and tube, has been very much underestimated. The following conclusions seem to be borne out by this experience: 1. Appendicitis frequently causes inflammatory diseases of the right ovary and tube, and occasionally the left side is also involved. 2. This condition is especially likely to give rise to chronic invalidism, because of the periodic exacerbation resulting from the congestion due to menstruation. 3. In operating for the relief of pyosalpinx, the condition of the appendix should always be determined. 4. In operating for chronic or recurrent appendicitis in patients suffering also from dysmenorrhœa, the right ovary and tube should be examined. 5. If the pain is limited to the right side in severe dysmenorrhœa, the appendix is frequently primarily involved. 6. In catarrhal appendicitis in which there is a fæcal concretion in the appendix, or in appendicitis obliterans, the pain is frequently most severe during menstruation. 7. In patients who have recovered from gangrenous appendicitis there is frequently no further disturbance from the condition of the appendix, except the digestive disturbance due to adhesions, while the secondary disturbance in the ovary and Falloppian tube may continue to be very great. 8. In young girls suffering from dysmenorrhœa the history should be followed very carefully, in order to determine the presence of a previous attack of appendicitis. 9. The fact that many of these cases are mistaken for salpingitis accounts for the theory that appendicitis is more common in men than in women."

Purulent Ophthalmia treated by Potassium Permanganate.—M. Viau (*Gazette hebdomadaire de médecine et de chirurgie*, June 15th) recently presented to the French Society of Ophthalmology a case of purulent ophthalmia in the adult, cured by a ten-per-cent. solution of permanganate of potassium. The solution was applied twice daily on the palpebral conjunctiva and supplemented by hot poultices of rice starch.

The Presystolic Bruit.—Dr. C. C. Gibbes (*Clinical Journal*, July 12th), in a paper read before the Chelsea Clinical Society, arrives at the following conclusions: 1. In consequence of the different tensions existing in the right and left ventricles, these cavities under the circumstances of mitral constriction do no act synchronously. 2. The base to apex portion of the right ventricular systolic wave occurs when the lef ventricle is in diastole. 3. The right ventricular mus cle vibrations are heard during the diastolic period, and they gradually increase in intensity toward the end of it. 4. The so-called presystolic bruit is composed of three parts: *a.* Right ventricular muscle vibrations. *b.* An auricular systolic bruit. *c.* A slapping first sound, the muscle vibrations being the cause of the peculiar and intimate relation between the bruit and that sound. 5. In the double mitral murmur these vibrations prevent the distinction between the two murmurs which is heard in the double aortic murmur.

Letters to the Editor.

DEATH FOLLOWING STRICTURE OF THE URETHRA.

63 West Fifty-fourth Street, *July 25, 1899.*

To the Editor of the New York Medical Journal:

Sir: I have read with great interest the letter of Edward A. Glasgow, M. D., interne of the Ensworth Hospital, St. Joseph, Mo., concerning a death following a stricture of the urethra, as the description closely tallies with that of so many cases which are treated in the free institutions in this city. The doctor asks the question, What could produce such a wholesale rapid destruction of tissue in a man who seemed only a few days before to possess such unquestioned vitality?" From the history of the case, it seems that the patient was a strong, healthy man, who entered the hospital eight or nine days before his death, suffering from a very small stricture of the deep urethra. Dr. Glasgow does not state whether this patient was suffering from retention or not.

If he was suffering from retention, he ought to have been relieved on that day, either by aspiration or by operation, instead of being allowed to go over until noon the following day, as during this time the kidneys secrete more urine than the bladder can hold, especially if the amount of urine already present at the time the retention comes on is added to this amount. In a case of this kind it is easy to see what a strain is brought upon the genito-urinary tract by pressure, and how easy it would be to wound the tissues about the stricture in the endeavor to pass instruments for the relief of the retention. It appears, however, from this letter that the patient was not suffering from retention at the time he entered the hospital, but simply from a tight stricture.

Impermeable strictures in strong, healthy young men, which suddenly give rise to sufficient trouble to cause them to enter a hospital, are generally of an inflammatory type—that is to say, there is a congestion about a tight stricture, rendering it much smaller. In this case rest in bed and treatment had probably reduced the congestion sufficiently to allow a small instrument to pass on the following day, but the letter reads that the small-sized sound was followed by larger ones until a No. 20 French was introduced; that the man's urine then flowed uninterruptedly, and that all trouble was then supposed to be at an end, but that on the next day or so the penis, scrotum, testicles, and surrounding tissues began to swell until quite large proportions were assumed. The temperature went up to a high degree, and a gangrenous spot was noticed on the side of the penis, which spread rapidly, until, through sloughing, almost the entire organ was destroyed, and later the tissues of the perinæum and penis became infiltrated with urine, and the patient died.

From this history it would appear that if the urethra had not ruptured before the passage of sounds had been accomplished, as it probably had not, the sudden increase in the size of the instruments from a small size to the 20 French had caused a rupture of the urethra in the dilated and thinned portion behind the stricture, and that this rupture had allowed the urine, infected as this fluid usually is in stricture cases, to extravasate into the tissues. The swelling of the surrounding tissues on the day after this instrumentation should have been, in my opinion, the signal for an immediate external perineal urethrotomy, with bladder drainage, and then the patient might not have been attacked with gangrene, and even if he had to a limited degree, life might have been saved by free drainage.

In a large hospital experience in a city institution, where the riffraff of New York are sent, such cases are not infrequent, and the patients often enter too late to be saved by surgical interference. They die of sepsis, due to urinary extravasation, urinary abscess, or gangrene. The wholesale and rapid destruction of tissue in this man, who had so shortly before appeared strong and healthy, is not surprising. He certainly lived for over eight days, whereas the majority of the patients coming under my observation, unless operated upon immediately on the first suspicion of urinary extravasation, die even in a shorter time.

Ramon Guitéras, M. D.

THE TERM APPENDICITIS, ETC.; A REPLY TO DOCTOR ELLIS.

126 East Twenty-ninth Street, *July 22, 1899.*

To the Editor of the New York Medical Journal:

Sir: The modest little paper, The Term Appendicitis and Other Unscientific Words of our Nomenclature, published in the *New York Medical Journal* for May 20th, has been twice translated into Greek. One of these translations appeared in the June issue of ’Ιατρικὴ Πρόοδος, a medical journal of Syra, one of the Cyclades Islands; the other in a periodical called Σάλπιγξ, of the island of Cyprus. A German version came out in the *Deutsche medicinische Presse* for June 22d. European papers and quite a number of private letters speak approvingly of the publication. Dr. R. Ellis, in his criticism in the *New York Medical Journal* for July 15th, is thus far the only adversary.

Musical people will tell us many things which they imagine they hear or see depicted when listening to a sonata or some other musical work. Something similar happens to my esteemed critic when he hears the dearly beloved word appendicitis. Dr. Ellis may kindly allow me to complement his interpretations. Appendix and appendicitis may mean or concern, indeed, a great many things, just as "L" may mean elevated railroad.

There exists a German students' song about a dog whose tail had been cut off (*Es lief ein Hund in das Refectorium, Observatorium, Laboratorium, Conservatorium*). We learn by this song how many things can be understood by appendix: we may, for instance, mean *cauda communis* by it. If the word has a right to exist, there can be no objection to calling gonorrhœa appendicitis; we should then only have to define which appendix was meant.

When we begin to acquire knowledge of a foreign language we are apt to find many things amusing, as is the case with Dr. Ellis and the labyrinthine German word for appendicitis. I can speak from experience; it seemed to me exceedingly funny when I first learned the word butterfly. But let us see how this word compares with its equivalent in English: Wurm, Fortsatz, Entzündung—this may be contracted *ad libitum* into one word—is inflammation of the vermiform appendix. The German term is composed of twenty-two letters, the English of thirty-four.

Wurmfortsatzentzündung is used in Germany for and by laymen; in medical literature it is, as a rule, replaced by a Greek term. German medical literature, as regards onomatology, does not deserve the reproach made by Dr. Ellis when he says: "The German prefers his own words to international words"—quite the contrary, he is the most international in regard to technical terms. Dr. Ellis asks: "Why not accept a pure Latin word 'appendinflammatus'?" *Si tacuisses, Doctore!*

It is impossible to follow Dr. Ellis in his lecture on policlinic and astyclinic, because here he assumes to know better Greek than all Greeks from the oldest times down to the present together. The small Greek schoolboy can explain why policlinic is an impossibility, and astyclinic is used instead, but I shall call to my aid Professor Kossmann, of the University of Berlin, a celebrated gynæcologist and a doctor of philology besides, a thorough scholar in classical philology. He is one of the correspondents mentioned above. The word πόλις, he says, has been avoided in this combination, especially by the classical writers, for one reason, on account of the danger of giving rise to double meaning (πολιός). In fact, the Greeks, as it stands to reason, know exactly when to employ ἄστυ and when to use πόλις. Police is, for instance, ἀστυνομία, but never πολινομία. I could furnish many paradigmata. The Greek small boy might perhaps be amused to hear one calling himself πολιατρός instead of ἀστυιατρός. Dr. Ellis, in producing evidence from Homer, Hesiod, and Sophocles, reminds me of a painful situation I once experienced. A refined American lady, wishing to practise French conversation, requested a friend of mine, a Frenchman, and myself to join her party at table in the boarding house which we happened to frequent together. One day the conversation turned upon blue laws, the law forbidding a man to kiss his wife on Sunday. The lady used an expression which would pass without objection among people with school French, which expression, except in grammar and lexicon, is, however, considered uncouth. When in the most careful manner we hinted that the word was not to be employed, the unfortunate lady knew better. *Causa patrocinio non bona pejor erit.*

I shall complement the criticisms of Dr. Ellis by quoting a just criticism against me.

Dietz, a master in the study of Romanic languages, has said: "The highest that can be attained by the etymologist is the satisfaction of having worked scientifically; there exists—in some instances—no security for absolute correctness. An insignificant note may, to his mortification, take away from under his feet what he had acquired by assiduous labor. Such will happen in all scientific investigation; in connection with etymological researches it is an everyday experience, even with the most ingenious man. Therefore let us observe modesty, even when everything seems to support our interpretations." I wish to make a practical application to myself: What I said about *Wasserscheu* as having been translated by some German into Greek is upset by a note by the editor to my paper in the *Deutsche medicinische Presse:* "The word hydrophobia was employed by Galen."

Dr. Ellis's suggestion to add the word cunomania to the Greek vocabulary is superfluous, since the Greeks, who have more resources in using their own language than Dr. Ellis, use the word κυνόλυσσος when they wish to give the exact definition.

The German philologist of whom Dr. Ellis says, "Dear old fellow, I see him with his pipe and Stein," and further, "I see him drain his Stein," is Dr. Heinrich Zimmerer, professor of philology, the author of noble scientific works, not only treating of classical philology, but also of anthropology and ethnography. I have before me a work of his on the anthropology and ethnography of Syria and Asia Minor. He has written in the English language itself on American missions in Asiatic Turkey. He is an Orientalist who not only has learned a number of the eastern languages, such as Arabic, Turkish, and Armenian, like other scholars, by books, but speaks them all perfectly well. This proved to be of great value to him and to science when he traveled as a scientific investigator in Oriental countries. As I mentioned in my paper, he has lived in Greece for years and speaks really living Greek. This prominent man and exceptional linguist is "the dear old fellow," as you call him, Dr. Ellis, with his pipe and Stein. I do not know what is his favorite beverage: as a good Christian he may not abstain from wine like the Mohammedans, and as a German he may indeed enjoy his Stein, but whichever of the two he drinks, I say to him: εἰς ὑγείαν σας.

Dr. Ellis says: "If all technical chemical and medical words were mongrel words like appendicitis and anthropometallism, the science would remain the same, in spite of poorly selected words, just as broken English may express exactly the thought of pure English, even though it may be harder to understand." The fact is that poorly selected words are a contradiction to science.

"The author," says Dr. Ellis, "makes an absurd mistake in supposing that there are 'malevolence and error' in regard to the Greek of to-day." I have to refer to my book *Christian Greece and Living Greek*, in which I have given conclusive evidence for this assertion. A. Rose, M. D.

BECK'S OPERATION FOR HYPOSPADIAS.

37 East Thirty-first Street, *July 23, 1899.*

To the Editor of the New York Medical Journal:

Sir: It was in the issue of January 29th of the *New York Medical Journal* that I described my new operation for balanic hypospadias, consisting in "*dissecting free and extending the existing urethra so as to make it do the service of a new canal,* instead of forming a new one," as had been the custom for centuries. The urethral orifice was sutured to the initial point of the freshened margins of the groove.

Previously to that, on October 4, 1897, I had demonstrated the new operation before the Deutsche medicinische Gesellschaft der Stadt New York (see report in the November issue of the *New Yorker medicinische Monatsschrift*, p. 597), where I first had suggested tunneling the glans by forming two flaps, lifting them from the glans, and uniting their margins above the displaced urethra.

The illustrated reprints from the *Journal* were sent by me to all the eminent German and Austrian surgeons, and among them to Professor von Hacker, of Innsbruck. It gave me no little pleasure to receive a letter from so distinguished a surgeon as Czerny in May, 1898, wherein I was informed that my operation had been performed by him at his clinic in Heidelberg. On a trip to Germany during the early part of last summer I was glad to see a lively interest taken in it by other German surgeons of fame.

How great was my surprise, then, when I learned from a publication of von Hacker's (*Beiträge zur klinische Chirurgie*, August, 1898)—a whole year later—that he, "on the ground of experiments of his own," had reinvented my operation! To make the *casus belli* still more complicated, Dr. Breuer, of Bardenheuer's clinic at Cologne, published the same operation as "a new operation for hypospadias of the glans after Bardenheuer" in the *Centralblatt für Chirurgie*. Now the readers of the *Centralblatt* could witness the interesting spectacle of von Hacker and Breuer fighting each other over the priority for my operation (see No. 49 of the *Centralblatt für Chirurgie*, 1898). My name was, of course, carefully suppressed in this knightly feud, which shook the truthfulness of the old proverb *Duobus litigantibus tertius gaudet*—at least for me. To the credit of Dr. Breuer it must be said that, after a more thorough consideration of the literature, he kindly acknowledged my rights fully. But Herr von Hacker possesses the nostrum of immunity. He has, in fact, trimmed his εὕρηκα so admirably well that it has been hailed through the leading journals as the von Hacker operation, while my original publications have hardly received any notice—of course! I should like to see what Herr von Hacker would do if he was treated *reciprociter* by an American surgeon.

Carl Beck, M. D.

P. S.—Since Herr von Hacker takes a most flattering interest in American ideas, I may take this opportunity of calling his attention to the fact that a short time ago I utilized the same principle for the female urethra, which permits of still greater displacement after being freed and dissected. In a case of old urethro-vaginal fistula, which had resisted previous attempts at closing it, the short anterior urethral fragment was exposed by a longitudinal incision and excised. Then the posterior urethral portion was dissected free and pulled forward, so that it could be sewed to the remainder of the orifice. May the great metropolis of Innsbruck offer the chances for giving this method also its proper staining!

A LIFE-INSURANCE SOLICITOR'S TRICK.

135 West One Hundred and Sixteenth Street,
July 26, 1899.

To the Editor of the New York Medical Journal:

Sir: A man representing himself as a special agent of two or more life-insurance companies is operating among the physicians on the upper west side. His scheme is to appoint a doctor medical examiner for a company, and then suggest that he take out a policy, paying a part of the premium with the application.

This information, embraced in a note in your *Journal*, may save some of us from being imposed upon.

Ernest P. Jenks, M. D.

Book Notices.

BOOKS, ETC., RECEIVED.

The Gross and Minute Anatomy of the Central Nervous System. By H. C. Gordinier, M. D., Professor of Physiology and of the Anatomy of the Nervous System in the Albany Medical College, etc. With Forty-eight Full-page Plates and Two Hundred and Thirteen Other Illustrations, many of which are printed in Colors, a Large Number being from Original Sources. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xxvi–17 to 589. [Price, $6.]

On the Relation of the Nervous System to Disease and Disorder in the Viscera. Being the Morison Lectures delivered before the Royal College of Physicians in Edinburgh in 1897 and 1898. By Alexander Morison, M. D. (Edin.), Physician in Charge of Out-patients to the Great Northern Central Hospital and the Children's Hospital, Paddington Green, etc. Edinburgh and London: Young J. Pentland, 1899. Pp. xiv–128.

A Pocket Dictionary of Hygiene. By C. T. Kingzett, F. I. C., and D. Homfray, B. Sc. New York: The Sanitas Company, Ltd. London: Baillière, Tindall, & Cox, 1899. Pp. 104.

Transactions of the New York State Medical Association for the Year 1898. Volume XV.

Thirty-fifth Annual Report of the Trustees of the Boston City Hospital, with Report of the Superintendent, the Medical and Surgical Statistics, House Rules with Rules for Admission, Discharge, and Government of Patients, Prospectus of Training School for Nurses, etc. February 1, 1898, to January 31, 1899, inclusive.

Report presented by the Board of Managers of the Observatory of Yale University to the President and Fellows. For the Year 1898.

Transactions of the Grant College Medical Society, of Bombay. From January to December, 1898.

Ohio Agricultural Experiment Station. Bulletin 106. The Chinch Bug. Experiments with Insecticides. April, 1899. Bulletin 107. The Hessian Fly. May, 1899.

The Symptomatology of Tumors involving the Hypophysis Cerebri. By James Stewart, M. D., of Montreal. [Reprinted from the *Philadelphia Medical Journal*.]

The Medical Treatment of Typhoid Fever. By James Stewart, M. D. [Reprinted from the *Montreal Medical Journal*.]

Carcinoma of the Œsophagus with Fatal Hæmorrhage from the Subclavian Artery. By F. G. Finley, M. D., and D. P. Anderson, M. D., of Montreal. [Reprinted from the *Montreal Medical Journal*.]

Tuberculous Disease of the Spine, commonly called Caries of the Spine, Angular Curvature, or Pott's Disease. By G. E. Armstrong, M. D., of Montreal. [Reprinted from the *Montreal Medical Journal*.]

Upon the Existence of a Minute Micro-organism associated with Cases of Progressive Portal Cirrhosis. By J. G. Adami, M. D., of Montreal. Read before the Montreal Medico-chirurgical Society.

Empyema of the Antrum. By Henry G. Ohls, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association*.]

Prevention of Hay Fever. By Alexander Rixa, M. D. [Reprinted from the *Journal of the American Medical Association*.]

Prophylactic Treatment of the Uric-acid Diathesis —Aminoform. By J. Arnold Goldmann, M. D., of Vienna. [Reprinted from the *Klinische therapeutische Wochenschrift.*]

Observations on a New Coal-tar Product. By S. A. Billings, M. D., and H. E. Engelhardt, M. D. [Reprinted from the *Southern Practitioner.*]

Medicine as a Profession. By W. L. Bullard, M. D., of Columbus, Georgia. [Reprinted from the *Alabama Medical and Surgical Age.*]

The Treatment of Pertussis. By W. H. Donaldson, M. D., of Fairfield, Connecticut. [Reprinted from the *Proceedings of the Connecticut Medical Society.*]

Statistics of Five Hundred Cases of Lobar Pneumonia—Notes on Some Interesting Results with the Widal Test—A Case of Pernicious Anæmia, with Fatty Heart occurring during Pregnancy. By Alfred Meyer, M. D. [Reprinted from the *Mount Sinai Hospital Reports.*]

Knowledge and Practice. By Charles Sedgwick Minot. [Reprinted from *Science.*]

Miscellany.

Professor Garner on the Language of Monkeys.—From the *Columbus Medical Journal* for July 5th we learn that at an informal meeting of the Columbus Academy of Medicine on the evening of the 5th inst., at Starling Medical College, Professor R. L. Garner, by invitation, delivered a lecture on the language of monkeys. Professor Garner has pursued the facts of science with such earnestness as to have no other ambition except to devote his life to this work. He described his methods of observation of the monkeys in the zoological gardens of this country and in the tropics, where he spent fifteen months studying the native animals in the heart of the dense jungles of western Africa. In his study and experiments among the apes in the zoological gardens, menageries, and in the jungles of Africa he says he has made his language intelligible to them and that they have spoken to him and have been understood.

He said in part: "In studying the subject of monkeys they have always presented to me a serious scientific problem. It is not a theory, but a fact, that animals talk, and I can speak to them in their own language. I do assert that monkeys talk, that they communicate with one another by means of spoken sounds. I am not alone in believing that animals communicate. Those who confess that they communicate deny that they talk. I define speech as being any oral sound that is deliberately uttered with the preconceived purpose of conveying an idea from the mind of the speaker to the mind of a hearer. Any sound that performs that function is *de facto* speech. It is no longer denied that animals exercise the faculty of reason, of course not to the same extent that man does, but they trace out the relations of cause and effect and apply the solution to their own uses. They can not trace a long series of causes and effects, but they go sufficiently far to call it reason. Speech is materialized thought. It is thought made tangible and in such a manner as to be received by another. A German writer says 'Speech is the body of which thought is the soul.' Monkeys possess all the faculties that men do, although in a feebler degree—sensations of pain and pleasure, a limited sense of right and wrong, a vague idea of the rights of property or ownership, and a rudimentary conception of propriety and government. They hunger and thirst, sicken and die the same as men do. Then why is it thought strange that monkeys talk? I take it for granted that any animal that is capable of thinking is capable of expressing thought. Monkeys do talk. They communicate by means of vocal sounds.

"I am so frequently asked the question, 'What first called your attention to this?' 'What caused you to study the speech of monkeys?' To give you any one reason would be a difficult matter. I always believed that animals communicated and I grew up with this thought ripening and maturing as my own life did, though the evidence was not at first so apparent, nor was I prepared to demonstrate the fact. In the summer of 1884 I was in the Zoological Garden in Cincinnati. I had before observed monkeys and tried to understand them, but I had never set about mastering their language. On the occasion of this visit I found a large rib-nose mandrill, or baboon, in a cage with a number of small monkeys who were kept in constant dread of this savage monster. The cage was divided into two compartments; through the partition was an aperture large enough to allow them to pass back and forth. A couple of these little monkeys were constantly on the watch and gave warning of the conduct of the baboon. It struck me that their speech gave such definite and exact information that the other monkeys were not left in doubt as to how they should act. They were quite informed as to the attitude of the baboon. I tried to distinguish and interpret this sound. Before the afternoon was over I was myself able to tell by the sound the nature of the conduct of the baboon. I immediately began the work. I began it then and there and continued it until the monkey house was closed. From that hour I believed it possible to master the speech of monkeys. I met with difficulties too numerous to recount. Among these one of the greatest was to remember exactly the sound made so that when I heard it again I could know that it was what I had heard before. After three or four years of incoherent effort to find out something about their language I decided to use the phonograph. I thought of this in the night and lay awake most of the night devising plans for the use of this instrument. I afterward went to Washington and arranged with Dr. Frank Baker to use the monkeys then at the Smithsonian Institution. At that time there were only two monkeys there. I secured a graphophone and on Sunday repaired thither with Dr. Baker and two or three others. I separated the two monkeys. They were of different species and even of different genera, but taking the male monkey into another part of the building I induced him to make some sounds. I recorded them, but did not know whether they were profanity or supplication. I took them into the room where the other monkey was and discharged them at her. They seemed to alarm her. They appeared to be sounds of anger. She gave evidence of understanding them. We could not tell whether her sounds were in reply or commentaries. They, however, were different from his sounds. I called Dr. Baker's attention to this fact. Shortly after this visit I went to Chicago, where I selected a brown *cebus* monkey of which I made a clear and distinct record on a phonograph cylinder. This I carried to New York and reproduced it in the presence of another monkey of the same species. This monkey gave every evidence of understanding the sound. He wondered where the monkey was and examined the horn. At last he ventured to peep into the horn. He was evidently perplexed as to the cause of the sound. I had no means of recording the sounds that he made. I secured another instrument and recorded this monkey's replies. I made about a hundred different records of the same species of monkeys; I confined myself exclusively to the one species. After some two years of almost constant work I was at last enabled to interpret nine of these sounds. The first sound interpreted signified food or the sensation of hunger. Now I found that by using this sound to them I could always elicit the interest of a monkey if he desired food. The next sound I interpreted seemed to have some relation to the feeling of the monkey during disagreeable weather. It was a sound of dissatisfaction, not only in connection with the weather in case of storm or wind, but was used when any other object afforded him displeasure or disquiet. By a repetition of these experiments I was enabled to verify certain interpretations. I tried to determine whether a certain species could understand the speech of another species or of other animals. I found that monkeys of a given species had a certain type of speech peculiar to themselves and that monkeys of another species did not understand unless shut up with them in a cage for a long time, and even then in replying they would speak in their own language. I know of but one exception to this. One acquired the sound for food. This was done in a period of six weeks. A monkey of this species would have understood it at once as being his sound for food. The circumstances under which it was done were such as to confirm my belief that he was trying to learn it. When I found his purpose I encouraged him to continue. It was witnessed by a number of persons. Dr. Ryerson, of Toronto, afterward bought this monkey and he told me that it retained this sound as long as it lived.

"The sounds of monkeys' speech as reduced to the phonograph showed all the characteristics of human speech. It would take too long to tell how many of these experiments were performed. Some were very novel. Mr. Edison said he regarded them equally novel with the invention of the phonograph itself. I enlarged the sounds as one does objects under a microscope. I could amplify the sound unit and lengthen the intervals between them, giving the ear time to appreciate the details. I was able to reduce human speech to the same pitch and intensity as the speech of monkeys and reduce monkeys' speech to human speech, only it sounded like a foreign language.

"I made records of Mr. and Mrs. Rooney, the two chimpanzees in the Cincinnati Zoological Gardens. I reproduced these records to Dr. Rosenthal, one of the greatest living linguists. He listened to them critically and pronounced them speech sounds, but of a low and barbarous type. He was not able to tell to what family of languages the sounds belonged, but agreed that they were speech of some kind and not a mere series of grunts or whines. When told what they were he listened again and again with deep attention and again pronounced them speech sounds.

"On one occasion when Professor John B. De Motte was lecturing in Washington I projected some of these sounds through the phoneidoscope and made them visible upon the screen in order to ascertain what they looked like. They presented all the characteristics of like phonetics in human speech, showing that the vocal organs that produce them have gone through the same mechanical action as in man. For the last eight or nine years he has continued to use these sounds in his lectures.

"On the subject of man and apes there is much to be said. It is not my purpose to discuss evolution, but it is necessary in connection with my work to call attention to the physical resemblances between man and ape. There is no reason why the great apes, as well as man, should not speak, for they are physically so nearly the same. In other words, the skeletons of man and of the great apes are so nearly alike that taking any particular part we find it difficult to distinguish whether it belongs to man or to the ape. There are four kinds of great apes, the chimpanzee, gorilla, orang, and gibbon. These constitute the anthropoid group, and there is but little difference in their skeletons.

"Concerning the skulls of these and all other animals, I have observed that there is a uniform gradation in the angles formed by the cervical axis and the facial axis when reckoned from a vertical line. This I have called the law of cranial projection, and the leading facts upon which it is based are these: When reckoned from a perpendicular the angle of the cervical axis is always coordinate to the angle of the facial plane on the opposite side of the upright line. In man both of these axes are in an erect position. In an ape, with his crouching habit, the chin is thrown forward and the cervical axis at a like angle. As we descend the scale through the monkeys, lemurs, and lemuroids on to the reptilian forms the two angles continue to widen in exactly the same degree, and as these angles widen the vocal powers lessen in scope and degrade in quality until in the reptile they are lost in a mere hiss. The craniofacial angle widens in the same manner and the gnathic angle the same. In like manner the longitudinal, vertical, and transverse axes of the brain coordinate so that knowing the exact degree of any of these angles it is possible to reckon all the rest from them and from this basis to determine with precision the vocal scope of any animal—that is, to tell the range of sounds that he is capable of making and the degree of precision with which he can modulate them. Through the whole range of nature, from man downward, the gnathic index may be regarded as the vocal index."

A Cincinnati Doctor Knighted.—According to the *Cincinnati Lancet-Clinic* for July 22d, Dr. A. Ravogli, who has long been the Italian consul in Cincinnati, has been created a Cavaliere by King Humbert, of Italy.

The Columbus Medical Journal.—Dr. J. U. Barnhill, for five years associate editor of the *Columbus Medical Journal,* has been appointed editor on the retirement of Dr. John Edwin Brown.

The Royal College of Surgeons of England.—We learn that Sir William MacCormac has again been elected to the presidency. This makes his fourth incumbency of the office.

"What might have been!"—In our issue for March 25th we cited from the *Grèce médicale* a story of a fraudulent charge of rape in which the girl, to rupture the hymen, had passed an egg into the vagina, where it was discovered and broken in the process of examination by the physicians. The *Medical Age* for July 10th quotes the same story from a French source and remarks: "If the egg had been fecundated, and it had been allowed to take its course to maturity uninterrupted in the vagina, there is no telling what interesting questions in legal teratology would have arisen."

Las Vegas Hot Springs, N. M.—Dr. William Curtiss Bailey, the medical director of this New Mexico health resort, who is also the local observer for the government weather bureau, has sent us an extract from his report for the year ending May 31st. The place is situated in the "dry belt," and is recommended as a health resort for persons who need a large amount of sunshine, dry air, and a medium altitude, with no extremes of heat or cold. As regards temperature, however, it is stated that on eight days of the year the thermometer registered over 90° F., and five times, at night, it fell below zero. In the dry air of Las Vegas, probably a temperature of 90° would not be objectionable.

A Christian Science Druggist's Fate.—We quote the following from the *Pharmaceutical Era* for July 13th: "The Christian Science fantasy has claimed many dupes and victims. These have generally been those individuals who would be cranks anyhow upon some subject or other, so that it is only occasionally that the crimes of this sect have come to public notice through their effects upon the general public. It is therefore very startling to learn that one of a class of men who, it would seem, would be the very last to be duped by this fanatical faith, has succumbed to it and lost his reason in consequence. Christian Science does not believe in drugs; therefore a druggist who is also a Christian Scientist must be regarded as a strange anomaly. It is a most incompatible mixture. Such a druggist can not practise what he preaches in both professions. If he is true to the Science he can not sell drugs; if he can not sell drugs he must starve, and this is just the position of an unfortunate druggist in an Illinois town. He has gone crazy over Christian Science. He lost his business because he advised his customers to leave drugs alone; and not only this, but his sister and niece have also become demented upon the same subject, and the former has died in an insane asylum."

The Mysteries of Medical Nomenclature.—*Judge* for August 5th has the following:

Patient: "I say, doctor, just what *is* this *grippe* anyway?"

Doctor: "Why, my good fellow, that's the name we doctors have for everything nowadays but appendicitis."

Patient: "Ah! And what is appendicitis?"

Doctor: "Why, that's the name we have for everything but *grippe*."

Encyclopædic Knowledge.—Dr. F. D. Bird (*Intercolonial Medical Journal of Australasia*, March 20th), in an address to medical students, said: "There are two extremes of students—the one who will not take the trouble to acquire knowledge; he, of course, drops out early, but his antithesis is always acquiring knowledge, until he becomes a walking encyclopædia. Now, I would warn you against becoming an encyclopædic student, overweighted with loads of learned lumber, which you will not be able to use quickly and effectively as your profession will require of you. This student is apt to think that his quantity of knowledge has the quality of wisdom. There is such a thing as being too knowledgeable, and the frame of mind in which such a student is apt to get reminds one of the horse that Canon MacColl tells about: 'A friend of mine,' says the Canon, 'once shared the box seat with the driver of a stagecoach in Yorkshire, and, being a lover of horses, he talked with the coachman about his team, admiring one horse in particular. "Ah," said the driver, "but that 'oss ain't as good as he looks; he's a scientific 'oss." "A scientific horse," exclaimed my friend. "What on earth do you mean by that?" "I means," he replied, "a 'oss as thinks he knows a deal more nor he does."' Now, we all think as this scientific horse thinks, but the encyclopædic student excels the most scientific of horses in this respect.

"Encyclopædic knowledge, carefully garnered in years of seeing and thinking, is a magnificent mental asset, but it is otherwise when stowed away rapidly and not thought over as it is received. The sixty-ton guns of learning score heavily at times, but it is the quick-firing mental armament that you especially require in our profession."

The Diplococcus of Pregnancy?—The *Medical Age* for July 25th commends the following anecdote to the consideration of Professor Schenk and his enthusiastic followers: A clergyman, walking on the outskirts of his parish one day, found one of his parishioners whitewashing his cottage. Pleased at this novel manifestation of the virtue that is next to godliness, he complimented the man on his desire for neatness. With a mysterious air the worker descended from the ladder and, approaching the fence, said: "That's not exactly the reason why I'm a-doin' this 'ere job, your worship. The last two couples as lived 'ere 'ad twins, so I says to my missus: 'I'll take and whitewash the place so as there mayn't be no infection.' You see, sir, as how we've got ten of 'em already."

Death of Sir Alexander Armstrong.—The *Lancet* for July 22d announces the death of Sir Alexander Armstrong, F. R. S., LL. D., M. D., F. R. C. P., etc. Sir Alexander, as a fleet surgeon of the navy, spent five years continuously in the expedition of the *Investigator* in search of Sir John Franklin in the arctic seas. In the course of this voyage a northwest passage was made out.

The Perils of a Public Vaccinator in England.—The *Lancet* for July 22d says that at the Hereford Police Court on July 3d an architect was summoned for neglecting to have his child vaccinated. The public vaccinator stated that he sent to the defendant a notice respecting vaccination, but that he did not call upon him, as he received a letter from the defendant saying that he "kept a revolver for the benefit of public vaccinators." The defendant was eventually ordered to have the child vaccinated in a month.

Sport and Philanthropy.—According to the *Lancet* for July 22d, the Duke of Westminster has presented the sum of £10,000, the amount won by his horse Flying Fox in the Eclipse Stakes at Sandown Park last week, to the Royal Alexandra Hospital, Rhyl, of which his Grace is president. The *Lancet* commends this excellent example to other owners who race for love of the sport and not for "filthy lucre."

Original Communications.

WHY SOME SEVERE CASES OF APPENDICITIS END IN RECOVERY WITHOUT OPERATION.*

By J. H. CARSTENS, M. D.,
DETROIT.

ALL of us have seen severe cases of appendicitis in which patients unexpectedly recover. If, in such a case, a surgeon has been called who advised an operation, he will be laughed at forever after by the patient, and such an instance will always be pointed out to show that in severe cases patients will get well with any kind of treatment or even without any treatment.

Those of us who advocate usually a prompt operation are perfectly helpless if such a case is pointed out to us. We can not deny that it occurred, that the operation was urged, but that the patient would not submit. All we can say is that it is a very rare occurrence. Formerly I explained it by showing that the appendix would become attached alongside of the cæcum or the intestine, sometimes even to the sigmoid flexure, and thus rupture into the bowel and heal without much trouble.

During the last year I came across several interesting cases in which there were peculiarities of the anatomical relation of the appendix, which explains how in severe cases rupture into the cæcum can easily occur, with prompt and permanent recovery.

In fact, the whole question of appendicitis has always seemed to me to be purely one of anatomy. As I showed in an article a few years ago, published in the *New York Medical Journal,* you will find in all cases where there is inflammation of the appendix that there is a stricture (or several). Generally it is at the junction with the cæcum. Sometimes the valve is closed, at others the mucous membrane is so swollen as to more or less close up the opening. In all my experience I have seen only one appendix attacked with inflammation, where the canal was of the same size or where the opening in the cæcum was larger than the rest of the appendix. In other words, when the appendix has such a shape that anything can get into it easily and also get out easily, there is no danger of appendicitis, *as appendicitis is brought about by the inability of the appendix to empty itself,* whether the contents are a little fæcal matter, septic mucus, or a foreign body. This, it seems to me, is the plain, simple, and whole ætiological factor. I will admit that the appendix is more liable to inflammation than other parts, on account of its poor blood supply. There is a greater tendency to it, but the poor blood supply never is an exciting factor.

During my past year's experience, I came across two peculiar cases. They were well marked and characteristic of the ease with which patients in severe cases might recover, so I thought a few words on this subject would be interesting.

The first case was that of Mr. I. B., who had had three attacks, the last being so severe that he was finally frightened into submitting to an operation in the interval. He was operated on May 27, 1898, in the usual manner. Opening the abdomen and bringing the cæcum into view the appendix was found in a peculiar position, as indicated by the drawing. Fig. 1 shows the external appearance; Fig. 2, a cross section of the condition. It will be noticed that the point of the appendix for the extent of fully an inch, was adherent to the cæcum, *beneath* the peritonæum. There was absolutely no peritonæum between the appendix and the cæcum. Hence, it can be easily seen that, in a case of this kind, if the inflammation took place at the distal end (which it naturally would), how it would fill with pus and finally rupture into the cæcum, simply going in the direction of the *least resistance.* Muscle is a soft tissue. It easily breaks down. It offers less resistance than the peritonæum, which is a firm, strong, and fibrous body and requires a good deal of force to break. Not only that it breaks less easily than muscle, but the amount of plastic lymph which would be thrown out by the peritonæum itself, when it is irritated, would strengthen it and still more tend to cause rupture *into the bowel* instead of into the abdominal cavity.

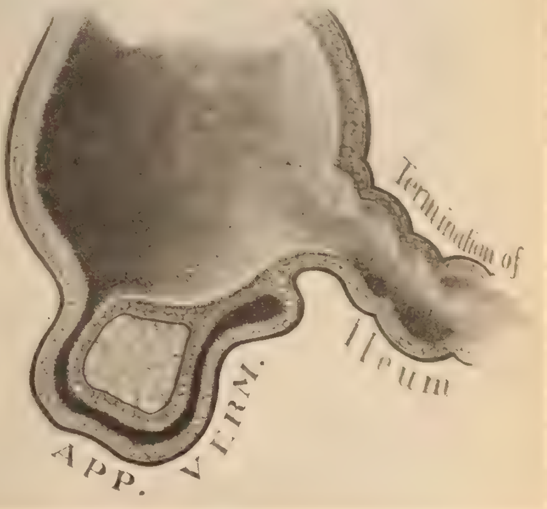

FIG. 1.

The other case, that of Mrs. M. C., who had two attacks and was operated on May 7th, is identical, except that there was no loop as in the first case. The appendix was lying flat along the cæcum over the whole extent and absolutely had no mesentery whatever. It was about two inches and a half long, lying between the muscular coat and the peritonæum of the cæcum

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* Read before the Michigan State Medical Society, May 5, 1899.

(Fig. 3). The peritonæum had to be split up to the whole extent (two inches and a half) and shoved back a little on each side, so that the appendix, without any peritoneal covering, could be easily enucleated and removed; then the two flaps of the peritonæum could be brought together over the bed where the appendix had been. In order to strengthen it, another row of Lembert sutures was used. Fig. 4 shows a cross section.

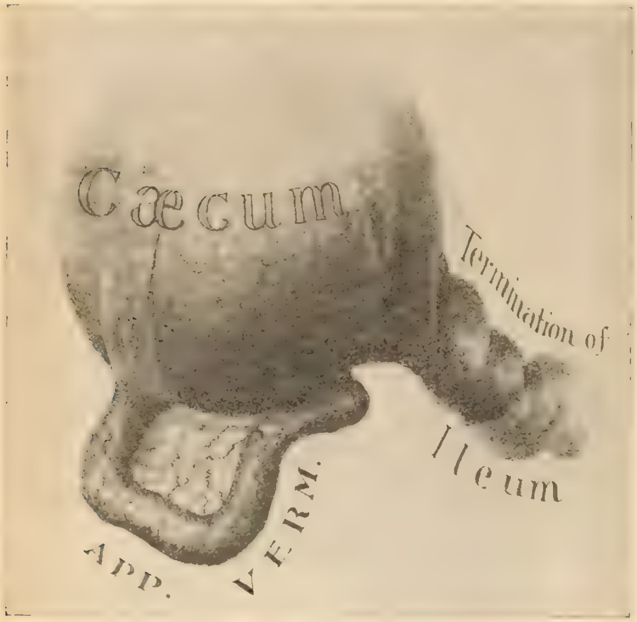

FIG. 2.

These two cases explain how a case of appendicitis with the most acute symptoms, such as fever, sepsis, etc., can suddenly break, and all the symptoms subside in a very few hours without any outward manifestations being present. There may not be any diarrhœa, and the small amount of pus passed into the cæcum will become mixed with fæcal matter and not be observed at all, and we wonder how it is possible that the patient can recover.

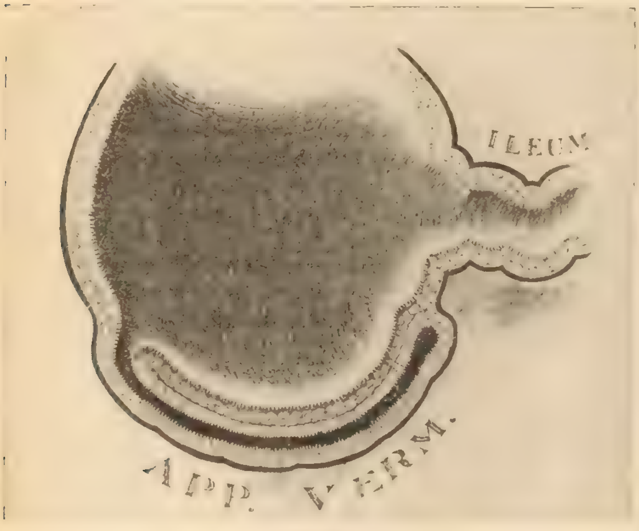

FIG. 3.

In such cases we are guyed by our conservative friends and told not to be too hasty with the knife.

This is the simple point I want to make in my paper, but it might be interesting to say a few words about the technics of operations. In interval cases, clean and aseptic, the usual incision is made. The location of this incision differs. A number have been advocated, but all have their good points. I prefer the outer edge of the rectus or the blunt separation of the oblique muscles without cutting them. In acute cases, we can not pay so much attention to the line of incision, and it is often better to get near the crest of the ilium. When the abdomen is opened and the appendix loosened from its adhesions, tie the mesocolon with one or two ligatures, according to its size, and loosen the appendix so that you have the appendix entirely free from its attachment. Cut through the peritonæum all around and strip it back, then hold the denuded appendix with a forceps, or, as I prefer, with the fingers, close to the cæcum and cut it off. You must hold it tight, as there is a great tendency to retraction, and if you let it slip out of your fingers, the contents of the bowels may contaminate the cavity. With fine catgut sew the muscular coats of the appendix together; three or four stitches will do it. Carefully wipe the end, for a little contamination may have taken place. Cover the stump with peritonæum and, if that is not enough, depress this part and cover it once more with a row of Lembert sutures. You now have a firm, smooth surface. There is no danger of rupture of the bowel, and if there is an abscess in the stump, it will break into the cæcum, as I have shown before, and not into the abdominal cavity. The abdominal cavity is sewed up in the usual manner (in layers, with catgut).

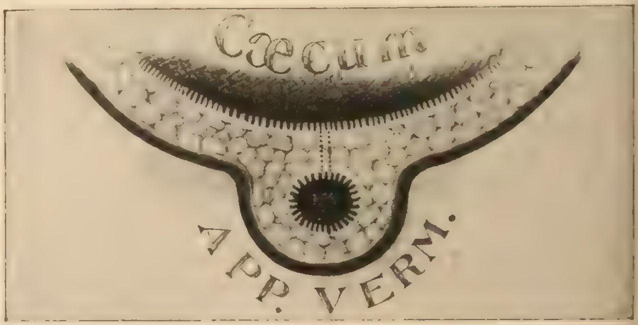

FIG. 4.

In the purulent cases, sometimes the appendix is entirely sloughed and hence can not be removed. Some cases you can treat as you do interval cases, but, as a general rule, in suppuration cases, simple ligation of the appendix near the cæcum is enough. You have the abscess cavity any way, you need drainage, you save time, and your patient gets along just as well. In these cases you need gauze or rubber drainage, sometimes both, and the abdominal incision should be closed with the figure-of-eight silkworm suture, but a sufficiently large opening should be left. I would rather have an abdominal hernia than a dead patient from lack of drainage. Sometimes I have had to take out one or two stitches afterward, not having left a large enough opening.

From January 1 to December 31, 1898, I have had thirty-three operations for appendicitis. That is, strict cases. Those in which the appendix was removed in conjunction with the tubes or ovaries, or uterus, or for any other reason, are not included in this list. The list is as follows:

No.	Date.	Name.	Age.	Condition.	Result.
1	Jan. 15th.	J. H.	56	Appendicular colic.	Recovered.
2	Jan. 29th.	S. R.	28	Appendicular colic.	"
3	Jan. 27th.	C. K.	41	Pus; temperature, 103.3°.	"
4	Mar. 4th.	Susan R.	30	Pus; temperature, 102°; two attacks.	"
5	Mar. 18th.	S. H.	40	12 attacks or more.	"
6	Apr. 2d.	P. C.	23	Appendicular colic.	"
7	May 7th.	Maude C.	32	App., 2 attacks.	"
8	May 11th.	J. E.	35	6 attacks.	"
9	May 17th.	M. K.	43	Pus; temperature, 103°.	"
10	May 21st.	L. C. A.	19	3 attacks.	"
11	May 27th.	J. B.	27	Pus.	"
12	June 4th.	C. H.	25	Pus.	"
13	July 2d.	Mrs. S.	31	2 attacks.	Died.
14	July 12th.	Mabel R.	20	3 attacks.	Recovered.
15	July 17th.	F. B.	32	Pus; 2 attacks.	"
16	July 18th.	J. M.	20	Pus; 2 attacks.	"
17	July 25th.	Mary S.	16	Appendicular colic.	"
18	Aug. 5th.	Mildred H.	23	4 attacks.	"
19	Aug. 10th.	J. W.	37	3 attacks.	"
20	Aug. 24th.	E. P. S.	44	3 attacks.	"
21	Sept. 1st.	Bella P.	10	3 attacks.	"
22	Sept. 5th.	H. B.	6	2; appendicular colic.	"
23	Sept. 14th.	Mrs. P. J. H.	29	Pus; first attack.	"
24	Sept. 24th.	T. B.	24	App.; 2 attacks.	"
25	Sept. 28th.	Mrs. J. H.	46	Pus; temperature, 103°.	"
26	Oct. 15th.	G. C.	17	Pus; 2 attacks.	"
27	Nov. 1st.	Villeta.	22	Appendicular colic.	"
28	Nov. 3d.	Mrs. T.	23	3 attacks; pregnant 4 months.	"
29	Nov. 11th.	H. N.	35	Pus.	"
30	Nov. 21st.	Kate U.	30	App.; 3 attacks.	"
31	Nov. 29th.	Mrs. T. A. J.	35	Appendicular colic.	Died.
32	Dec. 3d.	Mrs. D. D. I.	30	Pus.	Recovered.
33	Dec. 26th.	F. S.	34	Pus.	"

Thirty-three cases—two deaths; thirteen cases between attacks. Seven cases of appendicular colic. Thirteen cases during attacks, with rupture and high temperature, with pus, and more or less general peritonitis.

620 Woodward Avenue.

THE HIGH AIMS OF THE PHYSICIAN.*

By BEVERLEY ROBINSON, M. D.

The Climatological Association is no small fraternity of little men with no great end and objects in view. Already by its work it holds an honorable position among other medical associations. Thanks to the tender care of those who watched and nurtured it at its inception—like Loomis and Pepper—continued and helped by Jacobi, Knight, Curtin, Walker, and others of equally pure metal, we have no reason to dread comparison with our fellows working in other fields. It is now well recognized wherever modern medicine is taught and valued that Americans are justly in the van. Where, indeed, do we find more earnest, more sacrificing workers? Are there brighter minds elsewhere? Does the world owe us much less than it does to the German or French? In one sense, perhaps, it does. We have not been able, it is true, owing to our lack of suitable endowments for laboratories and professors, to discover so many things which in their later application to the cure of disease, to the increased happiness and well-being of the race, merit all our praise. And yet, are we not almost invariably disseminators and improvers upon what is indicated, as it were, by earlier work, and it may be more scientific?

Remark what important results we have obtained from the antitoxine of diphtheria and of tetanus; from tuberculin or its modifications; indeed, from serotherapy in all the different forms; and last, but not least, from Listerism and all its splendid beholdings and outcome.

Alongside of what makes us feel so proud, so well satisfied, however, there is something which we would change if we could—which we shall change, God willing, in order that no reproach may be attached to our otherwise glorious record. In latter days some men seem to love money too much. They appear to fall from their high estate in their contest for it. Not content with an honorable sufficiency, they want more wealth, and why? Is it to increase the sum of prosperity and happiness among those less favored than themselves? Is it to endow colleges, to promote learning, to ameliorate and lessen the burdens of the poor and downtrodden? Not always, I very much regret to say. They want money for money's sake and that alone. Given everything almost that makes their lives honored and respected, they act as if the mere acquisition of lucre were their ultimate worldly desire. Don't mistake me! These are the few, the very few, and yet they hurt us; they hurt the noble ends we would all most gladly serve. Medicine, properly understood, is too high, too great a calling to be smirched by any such, and I stand here to-day to cry a halt and call upon the band who surround me, and who I know are with me, to bid them turn about and reform their ways. Unfortunately, here is the stumbling-block more particularly of the specialist. The general practitioner—the noblest of them all—the man whose life and service on the battlefield or in peace are "*sans peur et sans reproche,*" who has been so often the stay and bulwark of the faint and weak, of the diseased, the wounded, and the hopeless; *he* is not to be captured, as a rule, by any niggardly idea, or brought low by any blot—though it be never so small—on a spotless escutcheon. And here it is, gentlemen, that we would speak, and that, too, in no uncertain tones, of the *character* of the physician. Let him continue to be in the future as he has been in the past, the saving help in time of need of the sorrowful and sorrowing one; but let him also be as he is now, and should be more and more, the guiding hand of the people in all matters relating to public health.

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* The Presidential Address delivered before the American Climatological Association, May 9, 1899.

We want our cities and towns to be thoroughly cleansed, the sewerage to be carefully and properly attended to, our streets to be well lighted, our health-board regulations to be governed with all scientific safeguards, looking to the common good and alike for the poor as well as for the rich. It is for us to insist upon, every day and at all times, the evils of our tenement-house system and the moral turpitude and physical debasement which necessarily proceed therefrom. Of course, I recognize that broad-minded, generous, noble citizens within and without our profession have already come to the front and have given their work, their time, their money, their influence to change these canker sores of our Greater New York, of our Empire City. On the other hand, political greed and ambition have stood in the way of a grander, larger, more extensive, and far-reaching work. The day will come, however, and none too soon, when with our electrical railways and through trains on every city line, our numerous bridges over both North and East Rivers, the man of small means will be able to give his wife and family and self the contentment and joy of a real home, where peace and moral worth and elevation of thought and action dwell continuously.

In the family relations, also, the chosen doctor who is to guide and direct, will be selected not because he knows everything pertaining to medical and surgical science, but because *he* among other men knows the *most.* If there are, as there must frequently be, occasions when the specialist's advice is sought for and required, he will stand by as the guardian of the family's first interests; he will be requested not to allow any narrow views to control the situation; not to permit any interference, medical or surgical, to be carried out unless with his entire approbation and indorsement. And the patients will select their physician because of his well-known, well-grounded intelligence, his previous long and honorable record of good and faithful work accomplished before his fellows and in the light of day—knowing as they will and must that he does for them not merely as he does for himself, but rather as he does for those he loves best in the world—heart within and God o'erhead. To repeat once again, for the physician as for other men, the noblest aim of his ambition should be to establish *character.* To lose it is to be as it is related of a renowned French orator: * "When Mirabeau, in the consciousness of the possession of the most masterful genius of his time, rose to speak in the National Assembly, he became aware that his dissolute past was standing beside him and mocking him. His vast power, honestly put forth for great ends, was neutralized by a record which made belief in him almost impossible. In bitterness of soul he learned that *genius* and *character* are bound together by indissoluble ties, and that *genius without character* is like oil that blazes up and dies down about a shattered lamp."

On the other hand, to gain it and firmly establish it, is to thoroughly fill the soul's best longing. Then he may become ideally, at least, such an one as Dr. Butler, "Master of Trinity," describes Gladstone in the finest memorial address which his death called forth:

"Critics, friendly and unfriendly, might weigh the varied elements of his rare intellectual structure; its range, its subtlety, its mastery over men; but the verdict of multitudes and of nations has been rather this: He gave us many gifts; but the most precious and the most enduring was *himself, his character.* He lived and labored with God before his eyes. He had the fear of God before him, and made a conscience of what he did. He loved righteousness and hated iniquity. His heart was with the poor and the wronged and the downtrodden, and dear was their blood in his sight. It is this conviction which at this hour draws us 'with the cords of a man' and makes us all of one mind." *

In Joseph H. Choate's splendid oration, delivered by him at the unveiling of the statue of Rufus Choate, the great lawyer and advocate, in the new courthouse of Boston, the speaker said: "And first, and far above his splendid talents and his triumphant eloquence, I would place the character of the man—pure, honest, delivered absolutely from all the temptations of sordid and mercenary things, aspiring daily to what was higher and better, loathing all that was vulgar and of low repute, simple as a child, and tender and sympathetic as a woman. So let the statue stand as notice to all who seek to enter here that the first requisite of all true renown in our noble profession—renown not for a day or a life only, but for generations—is *character.*" †

In the Harveian oration on The Influence of Character and Right Judgment in Medicine,‡ delivered before the Royal College of Physicians of London on October 18, 1898, by Sir Dyce Duckworth, the speaker said:

"We are perhaps too much disposed to commemorate the scientific achievements of our great men, but let us not be unmindful of their characters. We know that genius is not always coincident with the highest moral or spiritual perfection, but when both these qualities are graciously combined in any one, we feel that we are in the presence of a truly great man, of one who becomes a personage and a power for good in his day and generation. In such a profession as ours we can never afford to lose sight of the preponderating influence of character in all who join our ranks and have to minister to every grade of our common humanity."

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* *The Outlook*, September 10, 1898, p. 133.

* E. L. G. in the *Evening Post.*

† *New York Tribune*, October 15, 1898.

‡ *Lancet*, October 22, 1898, pp. 1037-1043.

And further on says Dr. Duckworth in eulogizing the immortal Harvey: "The day in which it has been affirmed that there is a gulf fixed between physical and spiritual science is, I think and hope, fast drawing to a close."

As Willis observes, Harvey "seized every opportunity of giving utterance to his sense of the immediate agency of the Divine in Nature." He had no fear either of the processes or the results of research. We can imagine his approval of the following sentences in the *Religio Medici,* which he must have read: "There is no danger to propound these mysteries, no *sanctum sanctorum* in philosophy. The world was made to be inhabited by beasts, but studied and contemplated by man; 'tis the debt of our reason we owe unto God and the homage we pay for not being beasts. . . . Those highly magnify Him, whose judicious inquiry into his acts, and deliberate research into his creatures, return the duty of a devout and learned admiration. Therefore:

"Search where thou wilt; and let thy reason go,
To ransom truth, e'en to the abyss below;
Rally the scattered causes; and that line
Which Nature twists be able to untwine.
It is thy Maker's will; for unto none,
But unto reason can He e'er be known."

Again speaks Duckworth: "Harvey himself best summed up his great characteristic and guiding principle in a concise sentence, which might even now be fitly inscribed on his sarcophagus, and it is this: 'I avow myself the partisan of truth alone.'"

That was the great moral of his life—truth eternal, ever to be sought for, to be held, and to be passed on.

Some men, perhaps, in what I have tried to outline, may find things to criticise or take exception to; they may say all this is very well, but is it not Utopian, impractical, impossible? I presume this is true, but it is equally true of all idealism, of all perfection. And yet what we very much need to-day in our lives is this very idealism. We have enough and more than enough of the *practical.* Our daily routine is eminently practical. Most of us are obliged to work, to labor, to save. We know that in this way, and this way alone for the majority of men, success is ultimately reached. Ignorance and deception and false ideas of life and its purpose surround us. Worldly applause, the desire to have fame at any price, and even though it be acquired by means that are unworthy; the constant, ceaseless endeavor to outstrip one's fellows and get ahead, may capture those who are filled with a narrow, selfish ambition. But is such a struggle to be imitated or admired? Is the reputation thus acquired ever enduring? I am sure it is not. The men whose fame is perennial, whose deeds are praised and glorified after they have gone and disappeared from sight, are those whose memories give us always a thrill of enthusiasm which awakens what is best within us, and tells of a goal to win that does not pass away and is not purely chimerical.

With the rapid growth of specialism, with the constant search for new things, with the ever-increasing scientific investigations in so many directions, with the augmented opportunities and necessities of chemical, microscopical, and bacteriological findings, the older practitioner is apt to think that his previous education and training have become time-worn and obsolete. But is it so? Should we not insist and believe that they are all the more valuable? Medicine is no art of yesterday, nor is its science altogether modern. The ancients have handed us down much, very much, that is still true, that always will be true. We, in our day and time, have added to the store of valuable knowledge. And this, too, must remain. Many things we once thought were good and would endure have been found useless, and hence are now neglected or forgotten; but so it is, or will be, with much that is now highly thought of and esteemed. With this conviction is produced a wise conservatism of thought and action. The older practitioner is conservative, and rightly so, not because he dreads new discoveries, not because he would stand in the way of legitimate progress, but simply because he knows that "all is not gold that glitters," and that shams and frauds are many; that enthusiasm needs to be controlled; that knowledge does not come in a day, and that the sifting of the wheat from the chaff is always a labor of time and careful, prolonged, continuous inquiry and repeated observation. Reverence for men and things of the past must be kept alive—not followed and adhered to with the praise and laudation of a fetich; but, nevertheless, not derided and abandoned altogether because other things are newer and, consequently, to many minds, more attractive.

How often do we hear the reproach made to the older practitioner that he has become antiquated; that he is no longer abreast of the times; that the younger man must know more because he is fresh from the schools, and hence he has the latest and best equipment! But is this often true? Is not the knowledge bought of and through experience something that experience alone can give and justify? How many prescriptions are uselessly written and unwisely taken that come from the junior members of our profession! How many surgical operations are performed that may add to the budding *éclat* of our brilliant young operator, and yet, if he could but see and thoroughly understand how small, if any, is the ultimate advantage for the patient to be derived from them, would not his hand be withheld? Would he not be content to advance more slowly but more surely, and certainly more conscientiously?

Happily for us to-day, medical education is higher in its intellectual grasp than it was a decade or two ago.

A longer, more arduous ordeal is of necessity gone through to obtain the right to practise, and for this reason errors of doing because of mere ignorance do not occur so often. The people who swallow nostrums, who are cured by friends, by acquaintances, or over the drug counter, are not, as a rule, the educated, trained men and women. Fortunately, no doubt, the too-confiding victims are the silly and the weak, the ignorant and thoughtless, those who imagine that knowledge and information come by sleight of hand or sudden inspiration. The best of us know absolutely the contrary. To these misguided and foolish ones I would point unerringly to the myriad of patient, laborious workers whose life and deeds blazon forth the one truism of constant, unremitting toil. *Toil* not for bread, not for fame, not for worldly rank, not for popular applause, not for greed, but simply, as de Tocqueville writes, for *duty to be done and well done.* Faraday, Huxley, Tyndall, Pasteur, Helmholtz, Lister, Virchow, Sanderson, Bastian, and countless others "who spurned delights and lived laborious days," prove it and glorify it.

One of the retorts which the specialist sometimes makes to the general practitioner is that without his help the patient would not, could not, recover. He firmly believes it is his medical or surgical skill which gets the success in curing the sufferer which would not otherwise be attained. But we may say to such a one: "Friend, the body of man is not perfect, physically or functionally, as a rule—and assuredly this statement is correct after middle life is entered upon—therefore it is not wisdom beyond a certain point to try to reach a standard that we shall not probably secure; indeed, that is scarcely possible, unless the personal sacrifice be very great, or other conditions are made morbid, or hurt, through our foolish efforts." The latter is very frequently the attitude of the general practitioner, who with his broad appreciation of all bodily ailments knows when to say Halt!—when or how to interfere. It is not always given to him to be able to do just what should be done, if it requires special skill or training to do it well, but he always should be the guiding hand, the referee to whom any grave or even apparently small matter is taken, and by whom ultimately it is decided. Of course, in the process of time and with increased success in certain lines of practice, men, as they grow older—and particularly the better informed and more skillful and capable ones—will gradually drift, as it were, into doing where some chosen field of work lies. But there is a sort of natural law which governs, and which ultimately produces the best results. But this is very different, and far better than the plan which tells a man that he should do this or that sort of work before he can possibly know what he is best fitted for, and without the long preliminary training which makes him a worthy applicant for ultimate and legitimate great success.

One great result, if no other, is assuredly achieved. Medical men do not see at every turn in the road some slight local defect which they wish to remedy with mere local means. They become broader and larger. They note the interdependence of all our organs, of all our functions; they generalize as they should, and from numerous isolated facts grasp mighty laws which govern. This is the correlation which almost invariably exists in our bodies, sick or well. It is for us to recognize it and follow it fully and rationally wherever it leads us.

Anatomy, normal and morbid, teaches us many things; but to see in mere structural conditions or changes everything, and not allow for the wide influence and omnipresent functional disturbance, is surely to narrow very much our power for good. How often do we go to the autopsy room to find multiplied diseased conditions of organs, and yet, when the history of the case is carefully analyzed, are we not astonished that with such, if they really have primary importance, all previous health or enjoyment would have been wholly impossible? On the other hand, do we not frequently see the autopsy made with greatest care without detecting any obvious diseased condition? Nevertheless, the patient's life has been one long series of disabilities and sufferings, and, to crown them all, death comes. The vital force, the latent energy, the dynamic, essential thing is also the unknown, and probably always will be.

The great physician of to-day should be the man who thus sees and reads Nature. He should be the one, of course, who studies the influences of climate and soil; of environment; of habits and customs; of professional and business lives; of light and heat; of winds and dust and dirt; of moisture and dryness, and all such influences for health and disease. But in his mental appreciations should also be the idea of thought and feeling and emotion; of cares and sorrows; and when he thus becomes, can he ever thoroughly abrogate the true missionary spirit? Is not the physician the one who has got to have it in the mere nature of things? Is he not obliged to minister to the soul as well as to the body? I do not mean or intend to convey that the physician is to teach men any of the things which pertain merely to sect, or to try at any time to clothe himself with a priestly mantle. I do mean, however, that by patience and sympathy, forbearance and long-suffering, and absolute rectitude in all he does and all he hopes to attain, he should be the highest ideal it may be given on earth for a man to follow. If such be the man, outside and beyond his purely professional calling, the great and good physician becomes the great and good citizen. His civic virtues are many; he obeys law and order; he points the way to a higher and nobler moral sense; he works not for hire, but for all men's best good. He points and directs the way in all social reforms. He is but a reflex in the body politic of everything that men should hold righteous and of good report. Immorality has no place near him; indecency of thought and word should not be countenanced by him. Reverence for Nature, Nature's laws, and the overruling God—the moving, essential spirit of all law in this world and in the next—are his guiding star. Self-sacrifice for men, which he inculcates beyond any price in his own life and example, becomes then, and always must and should, what leads men more than everything else to recognize the brotherhood of men and the saving help of Him who died to make men holy.

Having endeavored to show briefly how essential it is for the physician to establish character; how important it is also for him to educate his heart and mind so that he may ever be in close touch of sympathy and affection with his patients; how true it is that he should never lose sight of the fact that he too in his person must ennoble, if possible, all civic virtues; and how, finally and above all, he must inculcate by his example and doctrine the purest aspects of Christian living, I still have a word to add for the scientific and practical sides of medicine—their relations and interdependence. To-day we think a great deal of science—its advancement, its wonderful conquests. We feel as though things, to be true, must be proved, and in matter of proof we are apt to abide too closely by the results of mere laboratory research; and even before the test of time has thoroughly shown their possible falsity or shortcomings, to allow ourselves to be guided and directed by them. Everywhere and at all times nowadays we hear and read of the omnipresent microbe and of his fearful ravages. Seldom do we hearken to the fact that he is often a very innocent or inoffensive factor in our bodily ailments. Whenever we have given him a form, size, aspect, immediately we infer that he always represents trouble and disaster. At least such is the attitude too frequently of the *profanum vulgus*; and likewise, let it be candidly admitted, of the not overwise scientist, who forgets that the art of medicine is the practice thereof, and that this art is quite as jealous a mistress and needs to be served with just as much fidelity and patience and brains as the science upon which the art is in part based.

In many diseases of an infectious type * the rôle played by bacteria, it seems to me, has been misinterpreted. They, in themselves, are not the causative agents of these maladies, but are rather a frequent accompaniment of the septic process, and may act as mere carriers of contagion. It is not difficult to understand, therefore, that when once the septic action is begun by the presence and influence of a poisonous principle of the contagious or infectious disease, such change may take place in the liquids and tissues of the body as to promote the rapid production and development of different forms of bacteria, with more or less characteristic features.

And after this manner may be satisfactorily explained the almost indefinite production or reproduction of the septic poison in any one of the diseases referred to. Let us beware, however, of confounding the really pernicious substance with an agent whose influence, to say the least, is at times probably but indirect and secondary. Once more, the bacterium is the abode of the poison, not the poison itself. This dwelling place, as it were, may remain the same for quite a period of time, and through an uninterrupted succession of many different individuals. It may also be destroyed or changed by the use of methods which occasion separation of the poison from the microbe, or else which destroy the virulent principle by decomposing it, or simply neutralizing its pathological action.

There are experiments to show that salicylic acid and carbolic acid, while excellent preservatives and antimicrophytics, are perhaps not always disinfectants in the strict sense of the term. In other words, the true poison of virulent disease will remain unaltered by their action even though lower organisms are destroyed and the power taken away by which their reproduction is effected.

If this is true of the noxa of virulent disease, it is probably true also of the poisonous principles of zymotic affections in general. In these diseases, therefore, when by the most perfect and thorough employment of antiseptics we have taken it for granted that we have destroyed their special cause of transmissibility, we have possibly tended rather to preserve it intact than to annihilate it. And what applies to the acids mentioned above, as types of a large class of so-called disinfectants, may apply equally well to many other substances of different chemical and physical properties, but which are coordinated by many physicians with the former on account of a similar destructive action which they exercise over lower forms of life.

It behooves us, in this as in other difficult or problematical subjects of medicine, to liberate ourselves from preconceived or too absolute theories which impede our progressive march in the path of exact knowledge. The following conclusions, taken from the address of Charlton Bastian, in which he attempts to refute the too exclusive views of the upholders of the germ theory of zymotic diseases, contain even at the present day some wholesome truths:

"1. The virus or contagium of some of these diseases, whatever it may be, does not exhibit the properties of living matter.

"2. There is the extreme improbability of the supposition that this whole class of diseases should be caused by organisms known only by their effects.

"3. The facts of the sudden cessation, periodical visitation, and many of the other phenomena of epidemics, however difficult they may be to explain upon any hypothesis, seem to oppose almost insuperable obstacles to the belief that living organisms are the causes of such epidemics of specific contagious diseases." *

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* *American Journal of Obstetrics*, 1876, vol. ix, p. 258 *et seq.* Robinson, Nature of Diphtheritic Poison, and its Treatment by So-called Disinfectants.

To Bastian's conclusions, promulgated twenty-four years ago, I would now add citations from the Huxley lecture on Recent Advances in Science, by Professor Rudolph Virchow, delivered last autumn in London on a memorable occasion. Virchow writes: † "With the discovery of parasitic animals conjecture became fact, and nothing was easier than to generalize this fact and assume the presence of independent organisms in each contagious disease. . . . It may be said that the contagious nature of disease shows suspicions of bacterial origin, but it should not be simply called that, although it allows the conscience to sleep. Some of the most important contagious diseases have succeeded in resisting the struggle to find in them a parasitic contagium. For example, many have been the sanguine hopes of finding the parasite of syphilis and as many have been the failures; the coccus of gonorrhœa alone has been discovered, the bacterium of syphilis remains a desideratum. You will remember the certainty with which it was expected that a parasite was the causal agent of variola—more than one was found, but none pathogenic. In hydrophobia all appearance seemed to promise that it would prove to be a microparasitic disease. Its contagion is undoubted; the vaccine has been prepared, and yet no one has been able to cultivate a specific bacillus. The same may be said of some other specific diseases. Painful as it may be, one can do nothing but observe. Perhaps the pathogenic bacteria will be found, but as long as they are not discovered all assumption is useless if not dangerous. To have learned this is to have made a mighty stride in the biology of disease."

"It was a happy inspiration," writes the editor of the *Lancet*,‡ "which led the authorities of Charing Cross Hospital to invite Professor Virchow to deliver the Huxley lecture on the occasion of the opening of the medical session.

"They could not have better honored the name of the eminent man whose medical education was obtained in their institution than by linking it in this manner with that of the foremost living exponent of pathological science. . . .

"Perhaps the most interesting portion of this lecture was the exposition of parasitism and the great extension which has been given to this in the discovery of the minute parasitic agents which excite the infectious diseases. Professor Virchow did well to remind us that the reaction of the tissues and organs to the bacterial poisons forms an essential part of these diseases, and he, perhaps wisely, bade us remember that there may be some infections in which bacteria have no share."

In corroboration of, as well in advance, in my judgment, of Professor Virchow's ideas I would cite from a paper read by Professor Martins, of Rostock, at the annual meeting of the German Naturalists and Physicians at Düsseldorf * on September 19, 1898, on The Cause of and Predisposing Conditions for Disease.

Professor Rostock says: "What predisposition or tendency of the organism gives the opportunity for the vegetable parasite to gain a foothold we are no nearer knowing than before, yet this is *the* important element in the origin of disease.

"There was a time in the inception of modern pathological anatomy when the discovery of the distinctive pathological lesion of the disease was thought to have brought medicine nearer to the *ens morbi*, to the essence of the disease. When it was found, for example, that hepatization of the lungs was characteristic of pneumonia, it was considered that a distinct step had been made toward knowing the entity of inflammation of the lungs. Now we know the bacterial cause that sets up the hepatization, but we are no nearer knowing why one man is afflicted with it, another not, although both seem to have been exposed to similar conditions and in the mouths of both pneumococcus may be demonstrable. . . .

"If exposure to microbic infection was always followed by disease, then bacteriology would have given us an explanation of the origin of disease. Infection and disease are by no means correlative terms, and the difficult question of susceptibility comes in as an important element to make us realize that we are still a long way from the explanation of specific pathogenesis. The study of susceptibility and its causes is to be an important occupation for the pathologist of the twentieth century, and much more is to be hoped from a widening of our knowledge of predisposing conditions to disease than from the further discovery of specific bacterial causes. This advance of knowledge, however, will come from no one-sided bacteriological hygienist, but from those who have studied profoundly the conditions of disease as they are."

Let us then erect our laboratories, promote scientific research, be wisely liberal and generous to those who with microscope and reagent and vivisection set the pace in a measure for the clinician. Let us not, however, ignore the claims of the latter to our fealty and lasting trust when mere science will not avail us much. I can not do better here than to quote from an address delivered by Professor William H. Draper before the Association of American Physicians.*

"We must pursue science," says Dr. Draper, "so as not to imperil the progress of art, and we must cultivate art as if science were not so much its mistress as its handmaid."

"We may wisely recall and apply the answer which Iphicrates, the Athenian general, is said to have made when he was hard pressed by an orator before the people to say what he was, to be so proud: 'Are you a soldier, a captain, an engineer, a spy, a pioneer, a sapper, or a miner?' 'No,' said Iphicrates, 'I am none of these, but I command them all.'

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* Delivered before the London Pathological Society, April 6, 1875.

† *Lancet*, October 8, 1898, p. 911. ‡ *Ibid.*, p. 940.

* *Medical News*, October 22, 1898, pp. 539, 540.

† *Transactions*, vol. iii, pp. 7, 8.

"So the practical physician many not be a very learned pathologist, an erudite physiologist, a skillful chemist, or an expert bacteriologist, but he must command them all, and it is he who must finally, through the cooperation of all the sciences which they represent, perfect the most beneficent of all arts; it is he who in his high mission as the servant of humanity must attain that wisdom which results from combining knowledge with the instinct and the skill for its useful application."

In a previous portion of this address I quoted from Dr. Butler's memorial tribute to Gladstone to show the proper estimate made in glowing terms of that great man's personal character. I shall terminate my remarks to you in, I believe, a most fitting manner by quoting from Mr. Gladstone's tribute to a great and noble physician, Sir Andrew Clark. At a meeting held in London to take definite action upon his memorial, Mr. Gladstone paid a most eloquent tribute to his late physician. He said:

"It appears to me that it was eminently desirable that, in a time like this, a man such as Sir Andrew Clark should rise to the head of his profession. For, after all, we require something more than knowledge, something more than skill. We require great devotion to the purpose of the profession; and that devotion never, I think, was exemplified in a more remarkable manner than in the career of Sir Andrew Clark. He loved his profession with his whole heart and soul. While engaged in that profession, he loved it not only with sincere and cordial but with chivalrous devotion. We need not say that the age of chivalry is altogether passed so long as we have among us men of the type of Sir Andrew Clark.

"I think the profession has done well in taking by common consent Sir Andrew Clark as the typical man, the representative of all that is best and noblest in the profession and its purposes. Others may judge better than I can of his scientific ability. What I have seen is his patience, his thoroughness, and his absorption in the care of his patient as if that one case was all with which he had to occupy his mind. I have had to note in my own instance a warmth of friendship and assiduous prosecution of the task of watching my health which I know not how adequately to describe. Although he was a much younger man than I, yet he followed me from month to month and week to week with something that resembled paternal affection. I am sure that whatever happens; whatever may have been the past advances of the medical profession, and they are great; whatever may be the future advances of that profession, and they will be greater still—there will never come a time when the profession will not be justly satisfied and glad to have recorded upon its annals a name such as the name of Sir Andrew Clark." * May it be the immortal privilege of one of us to have such a eulogium from such a man!

"*Sic itur ad astra.*"

THE
EFFECTS OF INFLUENZA UPON THE EYES.†

By HENRY S. OPPENHEIMER, M.D.

About a year ago Dr. Turney wrote in the London *Lancet*: "Influenza is now so hackneyed a topic for medical writers that mere mention of it has become almost a punishable offense." And then he went on and wrote an article upon this subject.

It seems to me that, until the microbe producing this ailment is reproduced under the conditions laid down so clearly by Koch as necessary to prove its title, the last word upon this subject will not have been spoken.

The subject of influenza is of interest to all of us, as we are surrounded by it. It is being studied carefully by many observers, and described accurately. While its manifestations in the eyes are *comparatively* few (when we consider the millions of cases which have been seen in the last decade), the reported observations have been so interesting and so numerous *actually* that a mass of material is at our disposal of which I intend to give you an abstract. To begin at the most external and least important lesions, we have abscess of lid reported by Ehrlich and Landolt.‡ So far as one can judge by the descriptions, these may have been cases of severe hordeolum, for hordeola are very commonly seen during or shortly after attacks of influenza, and numerously reported. I will say here, in order to save time, that all cases of which I shall speak in this paper occurred during or shortly after influenza, without other diseases being present or suspected, unless expressly mentioned here, and in all the inference is therefore that they were due to influenza or its effects.

Finzi * saw a case of herpes zoster of the lid. Hæmorrhages into the conjunctiva are common, and are probably nearly all brought on by coughing. The catarrhal type of conjunctivitis is so often observed that it only needs mention.

Pflueger ‖ has seen croupous membrane on the conjunctiva, also Valude (this on a phthisical stump upon which an artificial eye had been worn). This case will be referred to again later. Coppey reports diphtheritic membrane; Rampoldi, subconjunctival abscesses.

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* *Boston Medical and Surgical Journal*, June 7, 1894, p. 579.

† Read before the Society of the Alumni of the City (Charity) Hospital, April 12, 1899.

‡ *Rec. d'ophthal.*, 1890.

* *Centralbl. f. klin. Med.*, 1890.

‖ *Münch. med. Woch.*, 1890.

Keratitis dendritica is reported by Gutman; punctate keratitis by Pooley, Webster, and Weeks. Badal and Galezowsky report eruptive and suppurative keratitis. Panas [*] saw a man with pterygium develop a central ulcer of the cornea with general infiltration of that tissue. Dianoux saw serpiginous ulcers in two eyes (in different patients) develop after a purulent cyclitis, of which more later on. Adler reports one case of keratitis parenchymatosa—the only one I have found on record in this connection. Herpes febrilis of the lips was seen in an epidemic in Hamburg in twenty-five per cent. of all influenza cases, and so it was observed in the cornea a number of times very naturally. Phlyctenulæ of the cornea are seen so often at all times that it seems to me difficult to say that in certain cases influenza produces them. Considering the effects of influenza on the nasal mucous membrane, we shall not be surprised that the tear duct and sac are frequently affected. Pooley saw stenosis of the duct. Ehrlich reports cases of purulent dacryocystitis; also Lindner,[†] Badal, and Fage.[‡]

Galezowski reports a case of episcleritis (the only one I could find). Bergmeister and Shopringer [#] saw suppurative and non-suppurative inflammation of Tenon's capsule. Fuchs [||] saw one beginning on the fourth day of the influenza, with exophthalmus, swollen lids, loss of motility of the eye, and eventually two openings into the orbit, giving vent to pus which showed pneumococci. Gazis reports a similar case; [△] Ehrlich, one of inflammation of Tenon's capsule and one of orbital cellulitis. Valude, in a domestic aged twenty-six years, after the "grippe" had passed, found pneumonia, followed by premature birth of her child, and false membrane on the conjunctiva (above alluded to) on a phthisical stump over which she had worn a shell. This eye went on to panophthalmitis, and the pus evacuated contained diplococci, streptococci, and the *white* staphylococcus. Bull (C. S.) saw, on the second day of the influenza, a phthisical eye develop orbital cellulitis and panophthalmitis. In the third week the eye was enucleated. Four days after this (in the fourth week) the patient died with meningitis. No pus was found in the sheath of the optic nerve on autopsy. (This report is without microscopical findings.) Pauss [◊] reports an eye going into panophthalmitis which had previously shown granular conjunctivitis and pannus.

Badal reports iritis and iridochorioiditis. The *suppurative processes* reported are very numerous. They are in all probability of embolic origin. Lagner [↕] gives a case of bilateral embolic iridocyclitis which developed suddenly on the eighth day of the disease. Complete blindness in four days. Eventual V. = $\frac{1}{2}$. Eversbusch, one of purulent chorioiditis on the ninth day, followed by panophthalmitis and perforation. The eye was enucleated and showed the *Staphylococcus pyogenes aureus* in great numbers, also infections emboli in several vessels of the uvea. Hosch,[*] one case of purulent iritis and hypopyon. Horstmann (Leyden and Gutman) cites cases of Grieff, Pflueger, Borthem,[†] and Wicherkiewich,[‡] thus collecting quite a variety of suppurative processes in the eye. Natanson, an interesting case with pleuro-pneumonia and bilateral embolic iridochorioiditis. Blindness on third day, death on fifth.

Andrews (reported by Pooley) saw five children between seven and nine years old, after the influenza had subsided, develop iridocyclitis, either suppurative or non-suppurative. All had coughs; no head symptoms. Two eyes were lost.

Alt,[#] of St. Louis, saw seven cases like the above also in children; only these seem all to have been suppurative. In three both eyes were lost, in four only one.

Dianoux reported to the Société française d'ophthalmologie, in the session of May, 1898, an epidemic in Nantes, during which he saw six cases with hypopyon and purulent cyclitis with increased tension (a rare thing in cyclitis in all cases. It was double in two patients only. Dianoux thinks the chorioid and vitreous were not implicated because the patients could see the hand. He calls attention to the fact that none of these eyes were healthy before this attack. There was tertiary syphilis, cataract, or post-operative aphakia, etc. His treatment consisted in evacuating the anterior chamber once or twice a day. He reports all these eyes "cured" but *two* (above alluded to). In these *two* serpiginous ulcers appeared in the cornea (after repeated evacuations of the anterior chamber) and "nearly destroyed the eyes." Dianoux also saw one case of septic hæmorrhagic retinitis. I saw two cases of hæmorrhage which injured the eyes—one in a man of thirty-five years, who had never been ill before he took the "grippe" with cough. He was recovering when he came to me showing extensive ecchymosis of lids and conjunctiva, both ocular and palpebral. This had come on overnight. Movements of eyes and pupils were normal. In the left eye the disc was hazy, the veins greatly enlarged. V. = $\frac{20}{70}$. No color scotoma. R. eye V. = $\frac{20}{20}$. Diagnosis, papillitis of the left eye, probably due to bleeding into the nerve sheath.

My *second* case was in a man of twenty-seven years, who complained of pains in chest and back from "grippe." He had noticed his right eye growing dim on the day before he came to me. In and around his right optic disc were splashes of hæmorrhage, with exudation at the edge of the nerve. An expert reported to me that he had found him perfectly healthy, but perhaps slightly anæmic. No venereal disease. Uses neither alcohol nor tobacco. Has had no sickness since childhood. V. O. D. $\frac{16}{200}$; O. S. $\frac{20}{20}$.

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[*] *Rev. gén. de clin. et de thérap.*, 1895.

[†] *Wien med. Woch.*, 1891.

[‡] *Arch. d'ophthal.*, 1890.

[#] *Wien. klin. Woch.*, 1890.

[||] *Ibid.*

[△] *Rec. d'ophthal.*, 1890.

[◊] *Rev. gén. de clin. et de thérap.*, 1895.

[↕] *Berl. klin. Woch.*, 1890.

[*] *Correspondenzblatt für schweizer Aerzte*, 1890.

[†] *Mon. f. Aug.*, 1891.

[‡] *Intern. klin. Rund.*, 1890.

[#] *American Journal of Ophthalmology*, 1890.

In influenza the *nerves* are frequently affected. To begin with the optic nerves, we have in them inflammations both in the eye and back of the globe. Of the retrobulbar neuritis Bull reports a case in a man, sixty-two years old, who was ill nourished. On the fourth day of influenza there appeared suddenly a central, absolute scotoma, about 30° in all directions from the centre. Examination by ophthalmoscope gave negative evidence throughout. The scotoma disappeared for form, but remained for colors. Other cases of this periocular neuritis are given by Hansen,[*] Bergmeister,[†] Stoewer,[‡] Ehrlich,[#] Antonelli, [‖] all followed by partial or complete atrophy. Metoxas, one with hemerolopia and final atrophy.

I saw a man of thirty years, who felt everything moving before him one afternoon while at work. The next morning he was blind in the right eye. This was somewhat prominent and painful when pushed back into the orbit. Pupil dilated *ad maximum*. Media clear. Nerve and the retina between the macula and disc hazy. V. = $\frac{3}{200}$. No color scotoma. Eye pains on looking upward. This and double vision due to paresis of inferior rectus. Diagnosis, retrobulbar neuritis. Has just recovered from influenza. No other complaints except nervousness and a rapid pulse. Denies lues and shows no trace of it. Uses no alcohol or tobacco. Of neuritis optica, as seen by ophthalmoscope in the eye, there are also many reports. Weeks, Hansen, Bergmeister, d'Eperon, Pooley, also Ehrlich, Königstein, Denti, Novelli, Vignes and Lebeau (cited by Knies), Sehorgan, etc. Snell[△] reports cases ending in atrophy more or less complete. Hortridge, a case of bilateral neuritis. Remak, one who, on the fourth day of the disease, had four convulsions in one hour, followed by loss of vision and optic atrophy.

Bergmeister reports cases of "simple and inflammatory atrophy of opticus, with loss of color sense and concentric limitations of the field."

Graddy saw a woman, who had influenza and pneumonia, become suddenly blind in the third week of the disease. She had a small central area of vision left. This improved, but was followed twelve days later by a sudden manifestation of right bilateral hemianopsia, which remained permanently.

Gifford reports the case of a man who, during grippe, had sudden violent pain in the occipital region followed by bilateral right hemianopsia, which remained unchanged for three years.

Only a week ago I last saw a man of fifty years, who came to me on November 27th because his right eye "had a black spot in it," as he put it. I found a somewhat irregular central scotoma of about 10°, which gradually disappeared under simple tonics, as he grew stronger from the depression following influenza. He had no visible lesion in the eye.

Landsberg[*] reports a similar case in a woman who, when convalescing, suddenly noticed a central scotoma. She recovered under the use of strychnine. He also tells of a man who, on the fourteenth day of the grippe, became suddenly blind in one eye without visible lesion. He had a narrow field and was totally color blind. He regained normal vision in eleven days under daily injections of pilocarpine.

The cyanopia reported was probably of central origin, but will perhaps be as well alluded to here as elsewhere. Hilbert[†] reports two cases of chromatopsia after grippe. One man, pale and ill nourished, with normal fundus and visual acuity, after persistent vertigo, saw everything blue. On iron and bromide of sodium his vision became normal in two weeks.

The other case was in a woman who, at the height of grippe, saw yellow for two hours. This blue vision means probably an exhaustion of the nerve centres, or possibly the effects upon the brain of some toxine. There are only six such cases reported, so far as I can find. Three were in neurasthenics, one in a case of fatal nephritis, one in a case of intermittens larvata, and the sixth in influenza. Another case of yellow vision is reported by Hillmans. The yellow vision produced by santonin is well known.

The nervous system seems to be specially selected by influenza. I have given some of the lesions affecting the second cranial nerve. As a matter of fact, all nerves sending branches to the eye are at times affected. Paralysis of accommodation has been seen by Andrews, Pooley, Webster, and Weeks. Uhthoff gives a case of paralysis of accommodation, with progressive ophthalmoplegia externa and symptoms of bulbar paralysis. Badal saw a man, thirty-three years old, without rheumatism or lues, develop, during convalescence from a severe attack of grippe, diplopia due to paresis of all the muscles supplied by the third nerve, excepting the superior rectus, sphincter iridis, and muscle of accommodation. A second patient of his, a man of fifty-seven years, had paralysis of right external rectus. Recovery was rapid.

Above I reported paresis of the inferior rectus.

Van der Bergh reports paresis of rectus superior and two of the abducens. Stoewer, one of the levator and rectus superior. Gayet, one of double ophthalmoplegia externa, without the levator palpebræ being affected. Gutman, one of one-sided ophthalmoplegia externa. Grieff, one case of paralysis of the left sympathetic, with enlargement of the thyreoid, prominent globes, heart's action rapid and irregular, in which ptosis of the right eye developed. Chase noticed gradually increasing prominence of eyes in a woman, twenty-eight years old, after grippe. Her health appeared good. The exophthalmus lasted for two years.

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[*] *Cent. f. Aug.*, 1891.

[†] *Wien. klin. Woch.*, 1890.

[‡] *Monats. f. Aug.*, 1892.

[#] *Inaug. Diss.*, Berlin, 1892.

[‖] *Anali di ottal.*, xxi.

[△] *Trans. of the Ophthal. Society*, 1892.

[*] *Cent. f. pract. Aug.*, 1890.

[†] *Zehender*, May, 1898.

Colley[*] reports a case of Graves's disease after "grippe." Schirmer,[†] one complicated instance of right unilateral complete ophthalmoplegia, with anæsthesia of the right face and scalp, paresis of the right masseter and temporal muscles, and of the tongue of the same side. This seems to have been a lesion, probably hæmorrhagic, at the base.

Sedan[‡] tells of a girl, seven years old, who, after a severe nosebleeding during grippe, was taken with a passing blindness. Bock gives a rare case of bleaching out of the eyelashes in a young lady.

The ciliary muscle seems to be the most frequent of the eye muscles affected. Its paresis is usually bilateral. It may exist without mydriasis, and together with difficulty of speech and swallowing. Such cases closely resemble the effects of diphtheria, and, like these, they usually disappear entirely. Next in frequency comes paralysis of the sixth, then of the fourth. Individual muscles may be partially or completely paralyzed. There may be external or internal ophthalmoplegia on one or both sides. The vitreous is at times affected. Gutman reports a case of hæmorrhage into it. Fresh opacities of the vitreous were seen by Eversbusch and Gillet de Grandmont.[#] Another by Magnus,[||] which he calls "retinitis proliferans." Attacks of acute glaucoma were observed by Adler,[△] Eversbusch,[◊] Knies (double), Gradenigo, Rampoldi, Stuffler, Badal and Fage,[‡] Bom, and Webster.

This shows a rather extensive list of clinical observations of eye troubles during or shortly after influenza. When we try to explain to ourselves the way in which these are produced, we are led naturally to divide them into different classes. To begin with glaucoma, we have so many reports of cases of glaucoma occurring in predisposed persons, during diseases reducing their strength, such as erysipelas, pneumonia, perihepatitis, extirpation of a large ovarian cyst, severe catarrh of bladder, bronchi, or alimentary canal, that we are warranted in the conclusion that any morbid condition tending to greatly reduce the strength of patients predisposed to glaucoma can bring on an attack of this malady, and we need ascribe no specific effect to influenza in the production of these outbreaks. This same lowering of strength will account for the lighter grades of paresis of the eye muscles, especially of accommodation. In the hæmorrhages into different parts we have the changed condition of the blood as the probable responsible factor; and this without taking into account the septic emboli, which will be alluded to later. No specific effect is necessary to explain these hæmorrhages. We have them in all diseases affecting seriously the condition of the blood; as, for instance, in diabetes, icterus, severe loss of blood, albuminuria, anæmia, leucæmia, etc.

In the purulent uveitis and orbital cellulitis, panophthalmitis, etc., emboli containing pyogenic cocci are evidently the original factors. How much the Pfeiffer-Canon bacillus is responsible for these lesions, or for influenza in general, I am not prepared to say. The cocci have usually been found, the bacillus mentioned rarely. Add to this the fact that the cultivated bacillus has never produced influenza symptoms except in monkeys, and we must conclude that the claim for the bacillus is not yet proved.

There remain, in conclusion, the severe nervous troubles to be accounted for. To my mind, when they can not be explained by the occurrence of hæmorrhages, they seem to be caused by malnutrition, using the word in its broader sense, combined at times with localized œdema. As an example of the effects of malnutrition I will only mention the epidemics of night blindness observed in Russian prisons and barracks during the fast of six weeks ordained by the Greek Church. During this fast meat is abstained from entirely. As the general condition of these patients is usually at low ebb, and their hygienic surroundings are of the worst, this additional reduction of nutrition produces the result of hemeralopia and other disturbances. Weiss[*] found that these sufferers recovered by rest in bed and the best diet the hospital afforded, without other treatment of any sort.

Thus, to my mind, the lack of appetite, the vitiated functions of the digestive apparatus, the consequent changes in the blood, lowered nutrition, together with the great depression of the heart's action (which is in all probability due to toxines produced by the yet undiscovered causative microbe), will account for the profound impression upon the nervous system which is so commonly observed, and explain the chromatopsia, scotomata, inflammations and paralyses of the nerves and muscles supplied by them.

HÆMOGLOBINURIC FEVER.[†]

By EDWARD E. FEILD, M. D.,
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It is my intention to call attention to a peculiar form of malarial disease now known as hæmoglobinuric fever, a condition which, as its name indicates, is characterized by the excretion by the kidneys of the coloring matter of the blood. The close resemblance of some of its symptoms to those of yellow fever makes it doubly important that we be able to differentiate the two diseases.

The disease is known in this State as "yellow

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[*] *Deutsch. med. Woch.*, 1890.

[†] *Kl. Monat. f. Aug.*, 1890.

[‡] *Arch. d'ophthal.*, 1890.

[#] *Rec. d'ophthal.*, 1890.

[||] *Fortsch. d. Med.*, 1891.

[△] *Wien. klin. Woch.*, 1890.

[◊] *Münch. med. Woch.*, 1890.

[‡] *Arch. f. Aug.*

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[*] *Berlin. klin. Woch.*, 1873, p. 232.

[†] Read before the Norfolk Medical Society, November 15, 1898.

chills" or "hæmorrhagic malarial fever," in North Carolina as "Roanoke yellow fever," and in Alabama as the "yellow disease," and is of especial interest on account of its recent origin, rapid results, and high rate of mortality. The terms "Roanoke yellow fever" and "hæmorrhagic malarial fever" are misleading, for while there are symptoms of the disease in question which strongly resemble both, still there are very distinctive points of difference between them, as will be shown farther on. The disease, on its appearance in the Roanoke Valley, was at first supposed to be yellow fever, and when afterward it was discovered to have a separate and distinct individuality, the term "Roanoke" was prefixed to distinguish it from the true yellow fever.

The term hæmorrhagic malarial fever is equally erroneous, for in any malarial fever we may have hæmorrhage from any and all mucous surfaces without the concomitant yellow hue of the skin, hæmaturia, and rapid onset of the disease.

In this connection Thayer says: "The association of hæmoglobinuria with malaria has long been recognized. The condition is often referred to as malarial hæmaturia, which may indeed exist, though in many instances actual blood-corpuscles are not to be found in the sediment of the urine, or, if they are found, are present in very small numbers; the condition is then due to the presence of a blood-coloring matter—a true hæmoglobinuria. The coloring matter is always present in the form of methæmoglobin."

Authorities agree that malarial hæmoglobinuria is uncommon in temperate climates; and in the more malarious and tropical regions its distribution is remarkable. In some districts, as Algeria, where pernicious malaria prevails, it is of unusual occurrence; while in others, as in Sicily, Greece, and the West Coast of Africa, it is very common.

It is stated by Thayer and other observers that persons attacked by hæmoglobinuric fever are subjects of chronic malarial disease. While this is probably generally true, it has not been invariable, clinically speaking, in the cases which have come under my observation. Some of these patients seemed to be attacked outright, although they had been residents of a malarious district. Certainly two of my patients appeared to be in perfect health up to the time of attack. The symptoms are as follows:

Malaise and languor, coldness of extremities, chilly sensations along the spine, blueness of the lips and fingers, headache, severe pains in the regions of the liver and kidneys, extreme nervousness, small and feeble pulse, pale and slightly furred tongue, and the bowels usually constipated.

This stage is of extremely variable duration, and is followed by the hot stage, in which the pyrexia may reach 104° or 105°—the skin being also subjectively hot, the eyes injected, watery and bright, the conjunctiva being sometimes yellowish. The headache and pain in the hypochondriac and lumbar regions become more intense, and the patient voids as much as eight ounces or a pint of peculiar coffee-colored urine every ten or fifteen minutes. Thirst becomes excessive, and nausea, with vomiting of black matter closely resembling black vomit, occurs. Partial deafness comes on. A yellow hue spreads over the skin until the entire surface is of an orange color. Delirium at this stage is a frequent though not constant symptom. At a variable interval the sweating stage comes on with or without a decrease of the fever. The yellowness of the skin increases, so that in many instances the clothing of the patient is stained yellow wherever it is saturated with perspiration. There is usually a decline of all the other symptoms; the urine is less in quantity and paler in color; nervousness not so marked; thirst less intense, yet the patient is left in an extremely weak and often semicomatose condition. The tongue at this stage is covered with a heavy dirty yellow coating. A peculiar sweetish smell, resembling that of a ripe pumpkin, has been developed in all cases which have come under my observation. Symptoms of uræmic poisoning often occur at this stage, and the patient may die from their effects or from exhaustion in a few hours from the onset of the chill. Otherwise there is a slight return of the symptoms during the next twenty-four hours. In favorable cases there is a slow convalescence. In one of my cases temporary suppression of the menses preceded and followed the attack.

In fatal cases, if the patient does not die from the hæmorrhage or uræmic poisoning during the first thirty-six hours, the result is brought on by exhaustion in the next three or four days.

YELLOW FEVER.	MALARIAL HÆMOGLOBINURIA.
Gives immunity from a second attack.	Gives no immunity, but predisposes to a second attack.
Disease of towns and seashore. Is confined to certain localities.	Disease of malarial districts, and not of towns and seaside.
Requires temperature of 80° F. for its development.	No high degree required.
Never occurs after frost.	Occurs at all seasons of the year, preferably in autumn.
Infectious.	Not infectious.
Urine scanty and high colored.	Urine excessive; port wine or coffee-colored; high specific gravity; feebly acid.
No previous history of intermittent fever.	Usually follows an attack of intermittent fever.
Faget's law of rising temperature and falling pulse.	No such symptom.
Yellow hue comes on slowly.	Jaundice very rapid.
Hæmorrhage from mucous surfaces often.	No hæmorrhage, except from kidney.
Febrile stage of long average duration.	Usually a remission in a few hours.
Violent headache nearly universal.	*Violent* headache is not usually complained of.
Characteristic flush of forehead and fiery look of eyes.	No such symptom.
Negroes not exempt.	Negroes exempt.

I have grouped together the symptoms of yellow fever and malarial hæmoglobinuria to show the points of difference between the two diseases (see page 229).

The points of analogy between the two diseases are black vomit, yellowness of skin, high degrees of pyrexia, and constipation.

The points of distinction between hæmoglobinuria and ordinary bilious remittent are as clearly defined. In the latter the slower onset, the less rapid and less intense jaundice, the absence of black vomit, the hæmorrhage occurring from any mucous surface, the tongue coated with a heavy white fur, all sufficiently show that these two diseases, while allied, are not identical.

Manson says of the urine: "If the characteristic dark-brown urine of a hæmoglobinuric case be left for some time in a urine glass it separates into two well-marked layers: an upper of a clear though very dark port-wine tint, and a lower—perhaps amounting to one half or one third of the entire bulk—of a somewhat brownish-gray color, and consisting of a sediment in which an enormous number of hyaline and hæmoglobin tube casts are to be found, together with a large quantity of brownish granular material. Epithelium is also met with; but blood-corpuscles may be entirely absent, or very few in number. With the hæmoglobin there is also an escape of the serum of the blood, for the urine turns almost solid on boiling; and for some days after it has gained a normal appearance the urine will still contain albumin, though in gradually diminishing amount."

This agrees pretty closely with my own observations.

The morbid anatomy of the kidneys shows them, if examined at an early stage of the disease, to be enlarged and congested, the tubules blocked with hæmoglobin infarcts, the cells laden with yellow pigment grains and the corpuscles with black malarial pigment. If the patient survives for three or four weeks and then dies of uræmia, the appearances are those of large white kidney.

It will readily be seen that where there is a preexisting lesion of the kidney, we have to do not only with a hæmoglobinuria but with a true hæmaturia, the weakened epithelial walls allowing a transudation of the cellular elements of the blood.

The first step in the progress of hæmoglobinuria is hæmoglobinæmia, or the presence in the blood current of hæmoglobin set free by the destruction of the red blood-cells. This condition would occur in a minor degree in the physiological destruction of the red blood-cells did not the liver transform the hæmoglobin into bilirubin.

Where the red blood-cells are rendered less resistant by any cause—as, for instance, a chronic malarial condition—the sudden onset of a strong exciting agent, as a malignant group of malarial germs, destroys them so rapidly that hæmoglobin in excessive quantity is set free in the blood.

The liver, which in all probability is torpid, is unable to convert this amount of hæmoglobin into bilirubin, and consequently the work of excretion is thrown upon the kidneys, which elaborate it in the form of methæmoglobin. The irritant effect of this body is often so great as to produce grave lesions of the kidneys and permit the transudation of a number of blood-cells and their *débris*, thus producing a true hæmaturia.

Of course when there was a preexisting lesion of the kidney this is more probable. The skin also assists in the excretion of hæmoglobin, but whether as methæmoglobin I have been unable to ascertain. The inability of these organs to remove the hæmoglobin rapidly enough causes the deposit of yellow pigment in the various tissues, the resulting jaundice being both hæmatogenous and hepatogenous.

Landois and Stirling say: "The bile acids in the blood dissolve the red blood-corpuscles. The hæmoglobin is changed into new bile pigment, and the globulinlike body of the hæmoglobin may form urinary cylinders or casts in the urinary tubules, which are ultimately washed out of the tubules by the urine."

I would remark that quinine, particularly the sulphate, given to prevent a malarial paroxysm, often produces hæmoglobinuria. Given the proper predisposing conditions, quinine seems to furnish as readily exciting a cause of hæmoglobinuria as does a crop of malarial parasites.

As to the specific form of the plasmodium which is the genetic factor in malarial hæmoglobinuria, authorities are not agreed. Manson states that "the specific character of the germs has not been accurately determined, further than that they are small and rarely sporulate in the peripheral blood, belonging doubtless to some form of the crescent-forming malignant type." Thayer says that the blood in malarial hæmoglobinuria, if the process occurs in an acute infection, shows the æstivo-autumnal parasite.

In only one of the cases which have come under my observation was the blood examined for the plasmodium. This case showed only the plasmodia of the benign tertian or quartan type.

Unfortunately, the therapy of hæmoglobinuric fever is very unsatisfactory, the mortality in the most successful hands being extremely high, probably not less than fifty per cent.

Many practitioners give quinine freely under the mistaken impression that it is the best remedy because it is the best antiperiodic, losing sight of its causative agency in the production of hæmoglobinuria.

In my opinion it should never be given until all signs of hæmoglobinuria have disappeared, and then only tentatively, discontinuing its administration upon the first appearance of bloody urine.

The treatment which was most successful in the cases which came under my notice was relief of the constipation by salines, the withholding of quinine, morphine hypodermically for the great pain and restlessness, cold to the head, and administration of arsenic to prevent recurrence of the malarial paroxysm.

Cantlie and Guice recommend the use of oil of turpentine in doses of ten drops every three or four hours for the hæmaturia, but I believe it to be unscientific and harmful to irritate the overtaxed kidneys with so violent a diuretic. Theoretically, the flushing out of the kidneys with a soft water would seem to be indicated.

The other treatment should consist in keeping up the strength of the patient by the usual methods, allaying irritability of the stomach, giving liquids only, and preventing as far as possible a recurrence of the paroxysm.

THE PATHOLOGY AND ÆTIOLOGY OF RHEUMATISM,

WITH SOME REMARKS ON TREATMENT.

By CUVIER R. MARSHALL, A.M., M.D.,
DETROIT.

THE term "rheumatism" has long been the cloak for many diagnostic sins. In this particular instance fashion has seemed to sanction a somewhat prevalent disregard for scientific accuracy in nosology, to such an extent that painful affections of the human anatomy, no matter where seated or how manifested, are not infrequently classified, with dignified nonchalance, as rheumatism.

Recently, however, the popularity of this ancient malady has been quite seriously imperiled by the appearance of a new candidate for public favor. In order to retain the confidence and esteem of his patients, or to maintain an unblemished popular reputation as a diagnostician, many a physician has yielded to the temptation to class commonplace disorders as "la grippe." The grippe is now the fashionable disease; it is the proper thing to have the grippe in season. The physician who is so conscientious that he will not thus characterize his cases of coryza, pharyngitis, laryngitis, bronchitis, gastritis, and even that virile though inconvenient ailment, specific urethritis, is not up to date, and is very liable to be invested by his neighbors with the sobriquet of "old fogy."

But no matter how generally the term rheumatism may have been misapplied, and however much the ætiology of the disease has been obscured in the vast and cloudy maze of pathological night, like the poor, we have it with us always, without regard to locality, season, climate, age, sex, or previous condition of the victim. Right here we are confronted with a notable example of the fact that pathology has not kept pace with the vanguard in the march of therapeutic progress. The rational treatment of this disorder, although well defined and amply sustained by volumes of clinical experience, smacks vehemently of mediæval empiricism.

It is reasonable to acknowledge that the pathology and ætiology of rheumatism are still somewhat enshrouded in mystery. It has long been held that lactic acid, in some way, by its presence in the blood causes rheumatism. Under improved methods of investigation that idea seems to have met the inevitable fate of most medical theories. Lepine found that the blood of a person dying from rheumatism gave a neutral reaction, while Bouchard discovered that the synovial fluid of rheumatic sufferers is acid in reaction, although there is no evidence to show that such reaction is due to the presence of lactic acid. Not even the slightest trace of lactic acid could be detected by Salomon in the venous blood of persons suffering with acute articular rheumatism; yet clinical observers are aware that acid sweats in this disease are not of infrequent occurrence, even though it has not been shown that the reaction is due to the presence of lactic acid. In fine, we may concede that the existence of lactic acid in the economy is a predisposing cause of the disease, but there is no conclusive evidence that it is the exciting cause.

Among the more recently advanced theories those of Reinhard * and Mordhorst † are worthy of note. The former says that rheumatism is an infectious disease, following a traumatic lesion of particularly the oral mucous membrane, through which the infectious agent obtains access to the system. His treatment consists, therefore, in the prophylactic cleansing of the mouth at frequent intervals. Mordhorst has undertaken a series of chemical experiments from which he draws the following inferences:

"The phenomena of rheumatism rest upon the accumulation of urate spherules in the connective tissue and cartilage.

"The alkalescence of juices of connective tissue is due to sodium carbonate and not to the bicarbonate or phosphate.

"Acids favor, in the extreme, the precipitation of the spherules, while alkalies prevent this precipitation.

"Sodium salicylate favors the transformation of urate spherules into urate needles. This explains why this salt cuts short the inflammatory process, but predisposes to relapse, which is due to the needles' persistence in the tissues.

"Urate spherules are naturally subject to oxidation; urate needles are not.

"Sodium carbonate and bicarbonate do not directly hasten solution of needles, but probably favor oxidation of spherules. These salts are best given in mineral waters free from lime and containing sodium chloride and carbonic acid."

The published opinions of Satterlee and Haig are

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* *Münch. med. Woch.*, September 13, 1898.

† *Centralblatt für innere Med.*, No. 19, 1898.

sufficiently well known to justify only a passing reference to their talented authors in this connection. The idea of Angel Money is similar to theirs, since he believes that rheumatism is due to the presence in the blood of elements resulting from nitrogenous tissue metabolism—*i. e.*, the products of fatigue, which induce a toxic blood state.

The various efforts to isolate a specific micro-organism which might be demonstrated to be the ætiological factor, so long sought for, have so far proved unavailing. Chvostek has expressed the view that a specific organism could not cause the disease, *per se*, but that it must be regarded as the pathological manifestation of the poisonous action of certain toxines of various bacteria. These toxines, he believes, find entrance into the circulation through the tonsils or the intestinal mucosa. Guttmann and Sahli found staphylococci in the joints, kidneys, and pericardium, while Leyden discovered a diplococcus. Birch-Hirschfeld, Triboulet, Bouchard, Charrin, Singer, and others have found various bacteria in the joints of rheumatic individuals. It would be vastly easier to arrive at some definite conclusion if each of these observers had reported finding the same bacterium, but the results of their work have been seriously depreciated by the finding of a varied assortment of streptococci, staphylococci, diplococci, bacilli, etc.

The following clinical facts are patent and must have some bearing upon the subject of ætiology. One of the known exciting causes of acute articular rheumatism is chilling of the surface of the body by exposure to cold and dampness. As a result, the normal acid secretion of the skin is checked or suppressed. Retention of the acid formerly eliminated in the normal perspiration reduces the alkalinity of the blood, a condition which is a prominent feature of the disease. Reduced alkalinity of the blood plasma may also follow the ingestion of foods containing a high percentage of acid, or the absorption of the products of acid fermentation (lactic, etc.) in the gastro-intestinal tract. What, then, is the result of a reduction from the normal alkalinity of the blood plasma? Chiefly this: Nutrition is inhibited by diminished oxidation, as illustrated by the experiments of Loeb, of the Chicago University, who found that the addition of a weak alkali to the water in which they are growing will accelerate the development of invertebrate larvæ. In other words, increased alkalinity favors oxidation and increased nutrition, while reduced alkalinity of the plasma means diminished oxidation and consequently retarded nutrition. As animals become immune to the action of bacteria the alkalinity of the blood is increased, while pathogenic micro-organisms flourish most luxuriantly in a plasma of a low degree of alkalinity. Defective oxidation, and hence retarded nutrition, are most generally observed in warm and damp climates. The clear, cold, and dry air of winter acts as a stimulant to those processes which are then so much accelerated that many of the phenomena characteristic of rheumatism are checked or fail to appear.

Here we seem to have come upon an insurmountable obstacle in following up the question before us. Like the many-hued butterfly, when pursued by the ardent school boy, it seems to have passed just beyond our reach. But so far as we have gone we have been able to assure ourselves that rheumatism is a disease characterized by a state of reduced alkalinity of the blood, and caused by certain toxic agents whose character and identity are as yet a mystery. We are somewhat in the position of the great Newton, who said, shortly before his death: "I do not know what I may appear to the world, but to myself I seem to have been only like a boy playing on the seashore, and devoting myself now and then to finding a smoother pebble or a prettier shell than ordinary, while the great ocean of truth lay all undiscovered before me."

The successful treatment of rheumatism, as we understand it to-day, was elaborated in the school of bedside experience. In the acute form there is no remedy at all comparable with the salicylates. True, they are objectionable in one or two minor respects, but what excellent remedial agent is not chargeable with the same shortcoming? The salicylates of the alkalies are well adapted to the treatment of rheumatism, especially in the light of our present knowledge of the disease. They are well known as antiseptics, while the absorption of their bases increases the alkalinity of the blood plasma which thus becomes an indifferent culture medium for pathological micro-organisms. The consensus of professional opinion warrants the statement that the prompt and systematic administration of full doses of the alkaline salicylates is the only safe plan to adopt in the treatment of the acute type of articular rheumatism. Pain is thereby relieved, the temperature is controlled, the tendency to the development of endocarditis is checked, and the local arthritic inflammations are alleviated. In a few days the disease is virtually mastered and the prospect of recovery is by no means remote. In an experience of nearly fifteen years the writer has rarely had occasion to administer a narcotic anodyne for the relief of the pain of acute articular rheumatism. There is one precaution to observe when prescribing the alkaline salicylates, and that is to insist upon having dispensed only the purest drugs obtainable. Nausea, tinnitus aurium, and delirium are apt to follow the ingestion of impure salicylates of sodium and other alkalies.

In a well-marked, acute adult case, the treatment should be instituted by ordering from fifteen to twenty grains of pure salicylate of sodium—or a mixture of the salicylates of sodium and ammonium—to be given every second hour. Should gastric irritability arise, the drug may be taken dissolved in carbonated water, either plain or flavored with syrup of sarsaparilla.

A very excellent preparation, adaptable to varied conditions of age, sex, and severity of attack, is the elixir of manaca and salicylates made by Parke, Davis, & Co. It contains thirteen grains to the fluid drachm of the combined salicylates of sodium, potassium, and lithium, together with ten grains of manaca, itself a valuable alterative and antirrheumatic. This elixir is especially useful during the subsidence of the acute symptoms, when it is desired to keep up the effect of the larger doses of the salicylates often required in the primary stage. In subacute and chronic cases the administration of the compound elixir of salicylic acid (Parke, Davis, & Co.) yields gratifying results when persistently continued. It contains forty grains of salicylic acid and four grains of potassium iodide to the fluidounce, with cimicifuga and gelsemium. The amount of the iodide can be judiciously increased, while in obstinately chronic cases I have found the addition of from five to ten minims of the wine of colchicum root very effective, especially when intestinal peristalsis is diminished and the resultant constipation has become a prominent complication. Within recent years the salicylate of methyl has come into more general use in the treatment of the pain of acute articular rheumatism.

Catrin * thinks the evidence in its favor is incontestable. As much as one ounce a day has been given. The most convenient mode of administration is by means of the gelatine globules of methyl salicylate with colchicine, originally introduced into this country from France, but now made by the well-known firm referred to above. Methyl salicylate has been used locally with marked advantage to the patient. Bandages of tarlatan soaked in the oil may be wrapped around the joint and covered by an impermeable dressing.

Arendt † has drawn attention to the value of salicylic-acid ointment in acute rheumatism. Unna, Ritter, and Ingra have shown that while salicylic acid is freely absorbed by the skin, salicylate of sodium is not so absorbed. Arendt advises the use of the following formula:

℞ Acidi salicylici,
Olei terebinthinæ, } āā .... ℥ss.;
Adipis lanæ hydrosi,
Adipis ....q. s. ad ℥iij.

This ointment is spread on lint and applied to the joints, which are then enveloped in oiled silk and covered by a soft bandage. The usual physiological effects of the salicylates are manifested in a short time, but no gastro-intestinal complications occur. Arendt states that he has treated many cases by epidermic applications alone, and that they all have done well, although the dose is smaller than that usually given by the mouth.

In chronic rheumatism and gout improvement may not occur until after the local applications have been continued for some time. In such cases Arendt uses the following formula:

℞ Acidi salicylici .... gr. ccc;
Spiritus vini rectificati .... ℥iij;
Olei ricini .... ℥vj.

Lint is soaked in this mixture and applied to the affected joints; it is then covered with wadding and some impermeable material, like gutta-percha or oiled silk. Under the continued application of this solution the swellings and nodosities often disappear entirely.

Of other methods of treatment in vogue for several years, such as electric applications, hot air, massage, hydrotherapeutic measures, and so on, nothing need be said at this time. They have their respective uses, but, as a rule, are not available in routine practice. The general practitioner relies almost entirely upon rest, regulation of the diet, and medication to bring his cases of acute articular rheumatism to a successful issue.

Quite as important as the early administration of the proper remedies is it to take care to continue their use for some time, even after the patient seems to have completely recovered from the acute attack. In this stage the elixir of salicylates and the elixir of manaca and salicylates, previously mentioned, will prove especially serviceable. Many an otherwise promising case has relapsed and undergone a prolonged and tedious convalescence by reason of neglect of this simple precaution.

THE TREATMENT OF FORTY-THREE CASES OF TYPHOID FEVER WITH NO DEATHS, AND WITH COMPLICATIONS IN BUT ONE CASE.

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Of late the antiseptic treatment of typhoid fever has been attacked and ridiculed by some writers. In fact, they have even gone so far as to say it does harm. Those who denounce it most strongly are chiefly those who have not given it a fair trial. This paper is written to show what results have been obtained by my rigorously following the antiseptic treatment of this fever in forty-three consecutive cases. Not one case of the entire series perished. Complications occurred in only one case, and that in a boy eight years old, of a very weak constitution; he had been continuously under my care for nearly a year previous to his attack. The result speaks for itself. What more forcible argument can be brought forward to show the efficiency of this line of treatment? I wish to lay much stress upon the necessity of strict attention to details in diet and nursing, and upon the fact that not one single grain of any coal-tar antipyretic nor one drop of alcohol was given internally.

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* *Jour. de méd. de Paris*, June 11, 1898.

† *Ann. et bull. de la Soc. de méd. d'Anvers*, April, 1898.

For the sake of convenience I will consider the treatment under the following heads:

1. Rest and diet.
2. Hydrotherapy.
3. Medicines.

Rest and Diet.—As soon as the disease was suspected the patient was immediately put to bed, and under no circumstances allowed to leave it until convalescence had been established. A bedpan was used right from the beginning to prevent the patient from getting out of bed even for a few moments. When possible, patients were placed in the largest, lightest, and best-ventilated room in the house. A room with a sink was especially avoided. If the room was large enough, two beds of the same level were placed in it, so that the patient could be moved without harm from one to the other by simply pushing the empty one alongside the other, thus allowing the bed to be made and linen changed every second day with ease. Feather beds were discarded wherever possible, and a hair mattress covered with a rubber cloth and a sheet substituted. Bedsores did not develop in a single case. To prevent these, it is necessary to keep the bedclothes smoothed out, and have the back, hips, and heels frequently bathed in alcohol; also to frequently change the patient's position in bed.

Careful nursing and diet regulation are the life-saving agents in typhoid fever. In no other disease is an appropriate liquid diet of more importance than in the one under consideration, and not only must it be liquid, but also digestible and palatable; furthermore, it should leave the least possible residue. All agree that the ideal fever food for typhoid fever is milk when it fills those requirements. If it is thoroughly acted upon by the stomach before entering the intestines there will be little chance of it mechanically irritating the ulcerated surfaces. The stools should be examined daily for undigested curds of milk, because when present they are extremely liable to cause fermentation, gases, and ptomaines, the chief factors in distention and perforation.

The milk may be given raw, boiled, or diluted with plain water, Seltzer, Apollinaris, or limewater. When diarrhœa is present, it is best to give it boiled. The quantity of milk given each patient varied in quantity from one quart to three quarts in twenty-four hours, the average quantity that was well borne by adults being four to six ounces every two or three hours night and day. This quantity was usually sufficient to tide them over the height of the fever. When the milk is not being properly digested one of three things must be done: (1) the quantity must be reduced, (2) it must be predigested or peptonized, or (3) it must be entirely abandoned. On some persons in perfect health milk acts like a poison. They either become constipated, with clay-colored or white stools, or else get a diarrhœa, the result of the non-digestion and fermentation of the milk. When these subjects are attacked by fever they stand it still less than in health. Kumyss, buttermilk, or malted milk must then be given. I prefer kumyss, if it can be obtained; one or two quarts a day can readily be digested by the weakest stomach. It is also a good diuretic. Buttermilk and malted milk may also be given as a change from time to time, especially in those cases where the prolonged use of milk has turned the patient's stomach against it. Beef juices, beef tea, and meat extracts should not be given when the bowels are loose, because they aggravate the trouble.

When the temperature returns to normal at about the end of the fourth week the patient becomes ravenously hungry, so that it is sometimes difficult to prevent them from stealing solid food, or from obtaining it by working on the sympathy of friends. In severe cases no solid food of any kind should be allowed until the temperature has remained normal for ten days. In the milder cases, where there has been little gastric catarrh and the digestion is good, we can begin solid food two or three days earlier. It is best to begin with as light food as possible and then allow a little more each successive day. My cases were allowed a diet somewhat like the following:

First Day.—One or two cups of chicken broth and one milk toast.

Second Day.—Home-made beef tea, a cup of weak tea or coffee, and a biscuit.

Third Day.—A soft-boiled egg, cream toast, and a little scraped beef in soup.

Fourth Day.—Two or three soft-boiled eggs, rice pudding, and a baked potato.

Fifth Day.—A small piece of chicken breast, a baked apple, and one or two baked potatoes.

Sixth Day.—A small piece of tenderloin steak, mashed potatoes, bread and butter, and rice pudding.

On the seventh day the patient was allowed to select his diet from the previous six days; after that he was allowed anything he wanted except fried and fat foods. If eating caused distress, the diet was immediately reduced for a few days longer.

Thirst during typhoid fever is a very prominent symptom, and sometimes a very troublesome one. All of my cases were allowed large quantities of water that had been previously boiled and cooled. I am not in favor of giving ice, because in several cases it increased instead of decreased the intense thirst.

The free use of water favors the elimination of waste products from the system through the kidneys. Eight or ten drops of dilute phosphoric acid were occasionally added to a tumblerful of water when the patient desired it. Not only did it seem to allay thirst, but also to aid digestion.

Hydrotherapy.—Systematic cold sponging was begun in each case as soon as the diagnosis was suspected. Equal parts of water and alcohol were used in every case. When the temperature went above 102.5° F. the patient was thoroughly sponged every two hours; otherwise it was done every three or four hours, as necessity required. The limbs should be sponged and dried in succession, and then the trunk; each sponging should take up fifteen minutes' time. An ice-bag to the head greatly increases the efficacy of the sponging. When the temperature could not be sufficiently controlled by sponging, a wet pack was used. The patient was wrapped in a folded sheet which had been wrung out in cold water and which was afterward kept constantly wet by the addition of more water. For the intense headache of the first week of the disease nothing has given as much satisfaction in my experience as the ice-cap or ice-bag.

There is no doubt that antipyretics by reducing the temperature reduce the patient's strength and resistance, and should therefore never be given.

The Brand method of cold baths was not tried on any case in this series; it is very impracticable in private practice, and is strenuously objected to by both the patient and his relatives. And why should we employ it as long as systematic cold sponging accomplishes the same good?

Cold sponging, like the cold bath, undoubtedly strengthens the heart, keeps the mind clear, lessens nervous symptoms, induces sleep, and diminishes muscular twitchings and tremors.

The mouth should be kept scrupulously clean. Nothing is so liable to coat the tongue as milk. After taking a glass of milk the mouth ought to be washed out with a saturated solution of boric acd. When this is faithfully done we seldom see those dry, brown, leathery, and fissured tongues called "typhoid tongues." By keeping the mouth clean we seldom find cases of abscess in the parotid or middle ear.

Medicinal Treatment.—The medicinal treatment employed can be expressed by the two terms *elimination and intestinal antisepsis.* As soon as typhoid fever was suspected calomel was administered in one-grain-doses every two hours for the first twenty-four or thirty hours. The first prescription was as follows:

℞ Hydrarg chlor. mit. .... grs. xx;
Sod. bicarbon. .... grs. xl;
Sacch. lact. .... ℥ss.
M. et ft. in chart. No. xx.

Sig.: One powder every two hours.

This was given whether the attack was ushered in with diarrhœa or constipation. It almost invariably checked diarrhœa and vomiting when present. In this way much poisonous and fermenting material in the intestines was eliminated from the system. After the patient's alimentary tract had been well cleared the administration of intestinal antiseptics was begun. Of these, salol, naphthalin, and carbonate of guaiacol have proved of the most benefit in the cases under my observation. Each was given for one week, beginning with salol and ending with guaiacol. As soon as the calomel treatment was stopped, salol in five-grain doses was administered every two hours for the next week. Salol is composed of sixty parts of salicylic acid and forty parts of carbolic acid; it begins to split up into its original components as soon as it passes into the intestine. It should be given in capsules or gelatin-coated pills. The salol is followed by naphthalin in five-grain doses in capsules every three hours, and is also continued for a week. At the end of this time carbonate of guaiacol is prescribed in capsules in two-and-a-half-grain doses, to be given every three hours until convalescence. No other internal medication was used during the course of the fever unless complications set in. Constipation after the first week was relieved by small doses of Rubinat water, two ounces every three hours until effective. This saline laxative water does not excite excessive peristaltic action. When bronchitis was present at the beginning of the disease malto-yerbine was given in doses of one teaspoonful every two hours until relieved. Occasionally a ten-grain dose of sulphonal was ordered to procure a little quiet sleep. Headache, no matter how intense, was combated by the ice-bag in every case. Alcoholic stimulants were not given in a single instance. Meteorism and diarrhœa, which occurred in only six cases in the third week, were easily controlled by oil of turpentine and deodorized tincture of opium in an emulsion, in the proportion of two minims of the former to three minims of the latter to each dose every three hours. A right-sided pneumonia, chorea, pericarditis, and endocarditis were complications which all occurred in a boy eight years old. Ice-bags were placed over his right side and over the præcordia. Arsenic was given internally in the form of Fowler's solution, three drops every four hours in water. Strychnine was also administered in full doses. Professor Quine saw this case in consultation and verified my diagnosis. The chorea disappeared shortly after convalescence. This was the only case in the entire series that presented any complications. As soon as convalescence set in intestinal antiseptics were gradually supplanted by tonics. Of these, maltine and its compounds were most freely used because most agreeable to the weakened stomach. If the digestion was very weak, maltine with wine of pepsin was given in tablespoonful doses after each feeding. If constipation was present, maltine with cascara sagrada was administered in teaspoonful doses three or four times a day. As a final all-round tonic, maltine with iron, quinine, and strychnine was prescribed in teaspoonful doses four times a day. Maltine seems to be especially suitable in typhoid fever, as it supplies not only nutriment, but assists the functions of the digestive organs on account of its richness in diastase. It does not, as some claim, lose its properties when it comes in contact with the acids of the stomach, but, on the contrary, they stimulate diastatic action, at any rate in the earlier stages of digestion.

Remarks.—The average duration of the fever was twenty-one days. In infants typhoid fever runs a much shorter course, two being included in my series, one thirteen months old, the other fifteen months old; the former was well in fourteen days, the latter in sixteen days. In infants it usually begins abruptly with nervous symptoms, cerebral in character, as a rule intensified by high temperature. There is splenic enlargement in every case with the typical eruption on the abdomen in half the cases. There is great prostration, dry tongue, thirst, and pallor. Their blood responds to Widal's test equally as well as that of adults. It is unusual for an infant to die of typhoid fever. The intestinal lesions are never severe, the ulcers being very superficial. The reason for this difference in the character of the lesions, the reason for the ulcers being less marked and less deep, has been stated by some to be the unirritating diet usually taken by the very young. Does not this look reasonable, and does not this condition of affairs in the intestinal tract offer an explanation of the disease and the lower death-rate?

The longest case in the series lasted nine weeks. Seventy-five per cent. of the cases occurred during the ages of eight and thirty, as shown by the following table:

Between one and two years	2	cases.
“ two and eight years	4	“
“ eight and twenty years	18	“
“ twenty and thirty years	13	“
“ thirty and forty years	5	“
“ forty and fifty years	1	case.

Out of the forty-three cases, twenty-nine were females and fourteen were males. The temperature rached 105.5° F. in three cases. The lowest observed temperature occurring as the maximum in any case was 101.8° F. High temperature was seldom present longer than two days. The following is a tabulation of the frequency of some of the prominent symptoms that characterize typhoid fever:

Abdomen:		
Rose spots	35	cases.
Tenderness and gurgling in right iliac fossa	43	“
Spleen enlarged	38	“
Spleen markedly enlarged	5	“
Tympanites	22	“
Diarrhœa	30	“
Constipation	13	“
Tongue:		
Dry, coated, red at tip and margins	30	cases.
Coated, white fur	10	“
Dry, brown, and fissured	2	“
Sordes, lips and teeth............	1	case.
Epistaxis:		
Mild	34	cases.
Severe	3	“
Absent	6	“
Bronchitis	30	cases.
Delirium:		
Mild	3	cases.

Widal's reaction was obtained in the last twenty-three consecutive cases; those occurring before that time had their urine subjected to Ehrlich's diazo-reaction, which proved a valuable aid to diagnosis in doubtful cases, although not as positive a means as the blood-serum test. A numerical corpuscular examination of the blood in ten cases showed nothing further than a slight decrease in both red and white cells, more so of the latter. The pulse rate was always slow and out of proportion to the temperature—for example, the pulse may be seventy-five or eighty and the temperature 104.5° F. The pulse is very frequently dicrotic, especially at the beginning of the disease. When pneumonia occurs as a complication the pulse rate immediately runs up to one hundred and ten or one hundred and twenty or higher. The same is true of other conditions complicating typhoid fever.

SOME REMARKS ON

THE USE OF SUPRARENAL CAPSULE IN THE NOSE AND THROAT.

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I was very much interested in the article which appeared in an October number of the *Medical Record*, by Dr. W. H. Bates, upon the use of suprarenal gland.

So many of these new preparations are put forward every year with promises which are never fulfilled that we become very skeptical and hesitate to make use of them.

For a long time we have been on the lookout for some astringent besides cocaine that will contract the nasal mucous membrane without any danger or ill effect to the patient, and at the same time can be given into the hands of the patient for use at home. This I think we have found in the suprarenal capsule.

The following are the conditions in which the aqueous extract will be found beneficial:

Nose.—In making an examination of the nose, when the turbinates are very much hypertrophied and the mucous membrane is not too sensitive, cocaine can be dispensed with and the aqueous extract of the capsule applied locally. In this case it is best to apply the solution to the anterior portion and wait about two minutes. By this time the mucous membrane is so contracted that the solution can then be applied to the middle and posterior portion. When the parts are under the full effects of the solution the inferior and posterior portions will appear white. In very large hypertrophies of the inferior turbinates, when the mucous membrane is in folds and of a grayish color, cocaine will reduce the hypertrophy very little, but if the solution of suprarenal capsule is applied the reduction is plainly noticed. It is in this condition of the inferior turbinates, which we call a true hypertrophy, that we are more likely to have both a primary and secondary hæmorrhage after operation. Now I can operate and not have enough bleeding to soil a large napkin.

Sæptum.—In sæptum operations, no matter how extensive, the hæmorrhage is very much reduced.

Vault of the Pharynx.—I have used it to reduce the congestion, especially after a croupous exudate of the vault, with very good results.

Pharynx.—The follicles often become congested behind the posterior pillars. The application of the solution will relieve the congestion, reduce the inflammation, and blanch the follicles.

I always apply the solution to the stump after an amygdalotomy.

Acute Amygdalitis.—The application of the solution applied directly to the tonsils will relieve the congestion and soreness.

Larynx.—In subacute laryngitis the cords will be seen to whiten and the congestion become very much reduced after spraying with the aqueous extract. This will be of great benefit to singers, especially as it can be repeated without any danger whatever.

Cauterization of Inferior Turbinates. — It binds down the tissue longer when used with cocaine, and lessens the congestion of the turbinates after the use of the caustic.

Hay Fever.—I hope we have found something that will give the poor sufferers from this disease some relief. At least we can feel assured that it will contract the mucous membrane as much as cocaine without the danger and depressing effect of the latter.

In all acute inflammation of the nasal mucous membrane I like the effect very much better than that of cocaine. I have found that the best result is to be had when the solution is applied directly to the mucous membrane and not sprayed.

After operations always clean off the surface and again apply the solution, which prevents the oozing until the crust has time to form.

I use a ten-per-cent. aqueous extract and make up a small quantity at a time, as it decomposes very quickly. I have been using the solution every day for nearly a year, and am greatly charmed with the results.

Therapeutical Notes.

Extract of Whortleberry in the Treatment of Eczema. — Daxenberger (*Centralblatt für Kinderheilkunde*, 1898, iii, 439; *American Journal of the Medical Sciences*, August) speaks very favorably of this drug in various forms of eczema, especially in children; also in the mycotic forms in smaller ulcerations of the skin and mucous membranes, rhagades, etc. The extract, of the consistence of syrup, is applied by means of a brush after the surface has been cleansed and dried. Over this a dusting powder may be sprinkled. Drying takes place rapidly, and the pellicle adheres so tightly that other dressing is unnecessary. By this means eczema was often cured in one to two days.

A Tooth Wash for Children.—The *Gazette hebdomadaire de médecine et de chirurgie* for May 7th credits Carron de la Carrière with the following formula:

℞	Thymol	100	parts;
	Benzoic acid	10	"
	Oil of mint	5	"
	Oil of star-anise	4	"
	Tincture of cochineal	12	"
	Alcohol	460	"

M. Add to a glass of water enough of the mixture to make it cloudy, and cleanse the teeth every morning, in children two years old or more, with a wad of cotton wet with the water thus aromatized.

A Collutory for Fœtor of the Mouth.—The *Riforma medica* for June 3d gives the following formula:

℞	Camphor	5	parts;
	Salicylic acid, Oil of anise, each	10	"
	Powdered benzoin, Calcium hypochlorite, each	20	"
	Glycerin	200	"
	Alcohol	300	"

M. Keep in a colored bottle. A coffeespoonful, in a glass of water, to be used as a mouth wash.

The Vomiting of Pregnancy.—Dr. John P. Dow (*Massachusetts Medical Journal*, August) says that in mild cases of the vomiting of pregnancy, when medication is not desirable or feasible, he is very fond of following an old German custom. He advises the patient to take a small cup of strong coffee upon waking in the morning—best without sugar and cream—then to remain quietly in bed for an hour before getting up.

Condurango in the Treatment of Dyspepsia.—The *Gazzetta degli ospedali e delle cliniche* for June 6th gives the following formulæ. The first is Friedreich's, and the other is Krauss's.

1. ℞	Condurango bark	15	parts;
	Water	300	"

Macerate for twelve hours and boil down to a hundred and fifty parts.

A soup spoonful to be taken three times a day.

2. ℞	Powdered condurango bark	225 grains;
	Hydrochloric acid	15 drops;
	Syrup of bitter-orange peel	2,250 grains.

M. S.: A soup spoonful every two hours.

The Use of Salol in Acute Amygdalitis.—The *Progrès médical* for June 17th ascribes the following to Caron de la Carrière:

℞	Salol	60	grains;
	Oil of sweet almonds, Gum arabic, of each,	120	"
	Syrup	750	"
	Distilled water	1,950	"
	Essence of mint	q. s.	

M.

A soup spoonful every two hours.

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LOCAL ANÆSTHESIA BY COCAINIZATION OF THE SPINAL CORD.

Beginning about fifteen years ago, Dr. J. Leonard Corning, of New York, has given a great deal of attention to the employment of cocaine for the purpose of producing local anæsthesia under conditions that, except for his remarkably ingenious devices, would in all probability have prevented the establishment of such anæsthesia. More than that, he early entertained the idea of anæsthetizing distant parts by cocainizing those portions of the spinal cord from which they derived their sensory innervation, and he proceeded to test the notion experimentally. For example, as was related by Dr. Corning in the *New York Medical Journal* for October 31, 1885, the fact that numerous small veins, running between the spinous processes of the vertebræ, entered the spinal canal and joined the larger veins of the internal spinal plexus was taken advantage of by him to anæsthetize more or less of the substance of the spinal cord, and consequently parts of the lower limbs that derived their sensory nerves from those points in the cord, by injecting cocaine between the spinous processes. He did this both upon the dog and upon the human subject, and in each the soundness of his reasoning was clearly shown by the production of more or less profound anæsthesia of the lower limbs. In subsequent publications Dr. Corning described his further investigations of the subject of mediate anæsthesia, as it might be termed, and notably his experiments in cocainizing the cauda equina.

Whatever may prove to be the practical value of these devices of Dr. Corning's, he is undoubtedly entitled to the credit of having thought them out and demonstrated their feasibility. But, like many other discoveries, these have been overlooked, and recently a great deal of credit has been given to Beer for essentially identical devices described by him in the *Deutsche Zeitschrift für Chirurgie* for April, 1899. We would not in the least detract from Beer's title to originality. In such matters originality is quite a different thing from priority, and he who invents something, not knowing of its having already been invented, shows a degree of ingenuity fully equal to that of the prior inventor, but with that amount of credit he should rest content. Dr. Corning must be credited, not only with the originality that is conceded to Beer, but with priority in addition, and priority is not insignificant, for it betokens mental alertness. We are glad to see that our esteemed contemporary the *Medical Record*, in whose own columns some of Dr. Corning's experiments were described in 1888, recognizes in its issue for August 5th that gentleman's title to be acknowledged as having been first in the field in the matter of cocainization of the spinal cord.

THE NEEDS OF THE ARMY MEDICAL DEPARTMENT IN PEACE AND WAR.

Surgeon-Lieutenant-Colonel Wrench, in the *British Medical Journal* for July 22d, concludes a most interesting and graphic picture of the Crimean War, in which he served as a regimental surgeon, with some remarks which have for us a special bearing on recent events. He says: "I shall probably be expected to make some remarks on the breakdown of the medical arrangements. From what I have already described you will, I think, see that it was the system, and not the men, that failed. The medical department was, like every other in the army of that date, quite unprepared for a great and prolonged war, hampered by red tape, and denied all independence of action. Miss Nightingale justly received great praise for the improvement she effected in the larger hospitals. Had the surgeons been given her power to obtain what they required regardless of cost, much of the misery and mortality in the hospitals would have been averted before her arrival. The old regimental system of hospitals and medical officers was, and probably is, the best in time of peace, but it must break down in time of war. It is clearly better to practise in garrison what will have to be carried out in the field than, as Abraham Lincoln remarked, 'have to swap horses when fording the stream.' Wars always have been and always will be cruel. It is, however, the pride of our profession that, while sharing the fatigues and dangers of the campaign, our sole duty will always be the protection of the soldier from what after all is his most deadly enemy—disease—and the alleviation of the sufferings of the wounded. The Crimean campaign taught a lesson which I trust will never be forgotten by the nation, that unless the medical department of the army is made efficient, and supplied with its proper complement of officers and ambulance during peace, it can not be expected to do its duty efficiently during war."

The regimental system of medical aid always has been, and inevitably must be, a failure on the field of battle, however satisfactory it may be in camps and quarters in time of peace. Much of the difficulty in our late war arose from the opposition on the part of regimental surgeons to being abruptly changed from a system with which they were acquainted to one with which they were not, and the time requisite to render them familiar with the details of their new routine. As Colonel Wrench says, "it is clearly better to practise in garrison what will have to be carried out in the field." To have adequate medical accommodation for all the casualties and disease that can possibly happen in each unit would be cumbersome, and expensive beyond all reason; while, if the accommodation in each unit is based, as it must be, upon a consideration of averages, it will constantly occur that the medical arrangements of one unit will be broken down by excessive demands upon them, while others are practically kept in idleness. Mobility, not fixedness, is the requisite, and that can only be attained by a properly organized and independent department.

UNIFORMITY OF STATE LICENSE REQUIREMENTS.

We take it that nobody questions the desirability of uniform requirements for State licenses to practise medicine, a state of things in which a person who had received a license in any State would be entitled *ipso facto* to the license in any other State. But this, we fear, is at present impracticable, so diverse are the requirements in many of the States. It does, however, seem feasible for certain States having practically identical requirements to establish reciprocity, at least in a tentative way, and this has already been advocated by men influential in the profession. To the Wayne County (Michigan) Medical Society we must give the credit of having made what is, so far as we know, the first tangible move in the matter. At a meeting held on June 22d the society appointed a committee of five "to investigate the best way of furthering the idea of a national health board and to consider the steps to be taken which, in time, may lead to a uniformity of the requirements for the license of practising medicine throughout the United States." The committee consists of Dr. George G. Gordon (president), Dr. E. B. Smith, Dr. F. D. Summers, Dr. E. H. Troy, and Dr. E. Amberg (secretary).

We do not know what these gentlemen have accomplished in regard to furthering the idea of a national health board; they seem to have postponed that part of their task, very wisely, we think, and set themselves earnestly to work on the reciprocity scheme. They have sent to the authorities of each State and Territory a circular of inquiry dated July 21st. In this circular they ask when a medical law was established in the State or Territory; what amendments have been made since 1898 and when they were made; whether other amendments are expected, and what their character is; what, if any, State, American, or foreign diplomas are acknowledged; whether the plan of entering into reciprocity with other States having practically the same requirements would be considered favorably; whether the officials addressed would join in efforts to work out a memorandum to be presented to the legislative bodies of the different States with a view to framing a bill on the subject; and whether the authorities addressed have any suggestions to make.

These questions are readily intelligible, to the point, and susceptible of brief and definite answers. We trust that the various officials to whom the circular has been sent will realize the importance of the scheme of approach to uniformity, and give the gentlemen of the committee full information on all the points covered by their inquiries. We hope also that the steps taken by the Wayne County Medical Society will speedily lead to as great a degree of inter-State reciprocity as is at present practicable, and ultimately to uniformity of requirements throughout the United States.

CHIROPODY IN THE ARMY.

One of the most essential conditions of an effective fighting force is the possession of good marching powers. The grosser causes which impair marching ability, such as varicose veins, etc., are, of course, attended to in the physical examination on enlisting; and should they develop subsequently to enlistment, the soldier comes under the care of the medical department. But there are minor troubles in the feet which may seriously impair the soldier's efficiency in this particular. The British military authorities have taken a very practical step toward obviating these by causing the non-commissioned officers of the army medical corps to be trained in the art of chiropody. This is a point which would well repay imitation.

TUBERCULOSIS AS A CONTAGIOUS DISEASE.

At the Medical Society of Brussels, M. Tiberghien (*Gazette hebdomadaire de médecine et de chirurgie*, July 20th) recently related the following case: A woman, always previously in good health, came under his care. There was no suspicion of tuberculosis in her parents. She had recently come to dwell in a house where many tuberculous persons lived, one of whom had died, and her clothes, without being disinfected, had been distributed. The woman in question received a dress, which she wore daily. From this period dated the first symptoms of her illness, vague symptoms attaching to the pleura and peritonæum, with some augmentation of the size of the liver and spleen. These symptoms disappeared after a short time, and the general condition markedly improved, but shortly, consequent on a contusion, a tuberculous abscess developed in the left elbow, and was opened and curetted. A fistula with signs of peritonitis persisted. Subsequently, very pronounced tuberculous signs appeared in some of the other bones, notably a lumbar vertebra, the general condition, however, remaining satisfactory. Finally, acute symptoms developed in the lungs, and the patient died within six months. This would appear to be an unusually convincing instance of tuberculous contagion.

THE EFFECTS OF ALCOHOLISM ON OFFSPRING.

M. Barbier, according to the *Journal des praticiens* for July 13th, recently related to the Société médicale des hôpitaux the history of a Parisian family the issue of an alcoholic father and a temperate mother. The children had been conceived while the father was in a state of inebriety. Of four living children, none was normal. Some showed arrest of development of one or more fingers, others were rhachitic, or did not develop teeth. There were no stigmata of syphilis. The investigations of M. Féré into the influence of alcoholism on the development of the embryo and in the production of monstrosities would appear to receive some support from M. Barbier's cases.

AN "EPIDEMIC" OF INFANTILE PARALYSIS.

The almost simultaneous occurrence of a number of cases of paralysis among children in Poughkeepsie and in a few other places in the State of New York, and continued reports of fresh cases, justify to some extent, perhaps, the popular idea of an epidemic. The disease is generally set down as a poliomyelitis of an acute form, but we think sufficient accurate observations have not yet been made to justify a positive statement on this point. The outbreak appears to be subsiding.

DISCONTENT IN THE BRITISH INDIAN MEDICAL SERVICE.

A medical service should always be untrammeled by the interference of line officers; otherwise, there will be inefficiency as well as discontent. An example is cited in the *Indian Medical Record* for June 28th. No administrative power is given to the medical officers in the plague operations, and in one district a certain captain "considered it within his right to determine who should, and who should not, be discharged from hospital." Many such instances of interference are stated to have occurred, and in consequence there is much discontent among the medical officers.

CHRONIC SUPPURATIVE ACRODERMATITIS.

Prolonged suppuration of the skin must, we presume, be counted among the rarities of dermatology, if we except the cases of weeping eczema in which the discharge is more or less purulent. At a recent meeting of the *Société de dermatologie et de syphiligraphie* (*Gazette hebdomadaire de médecine et de chirurgie*, June 29th) M. Hallopeau showed a patient whose hands had been the seat of purulent dermatitis for eighteen years, and remarked that he had lately seen a case in which the greater part of the whole cutaneous surface was affected by extension from the hand. He attributes the trouble to pyogenic microbes which penetrate in consequence of traumatism, and says that fatal purulent infection may take place.

THE CAUSTIC ACTION OF GARLIC JUICE.

Domestic remedies are not always harmless. An example of this fact was recently brought to the attention of the Paris Medico-chirurgical Society by M. Gillet (*Presse médicale*, July 8th). The case was that of a boy whose thumb showed severe ulceration resulting from the application of garlic continuously for eight hours for the purpose of curing a wart. M. Vigier remarked that the caustic agent, allyl sulphocyanide, did not preexist in the plant, but was developed on contact with moisture.

HÆMATO-HYDRO-NEPHRO-URETEROSIS.

Under this name, Dr. John H. Summers, Jr., of Omaha (*Medical Record*, July 29th), gives an exceedingly interesting account of a case in which the kidney and ureter were distended with a bloody and watery liquid, forming a large cyst which he removed by an extraperitoneal operation with complete success. It seems as if a shorter term, and yet one sufficiently expressive, might be applied to such a cyst.

TUMORS OF THE NIPPLE.

Remembering how tender and vulnerable a structure the nipple is, we may well wonder that it is not oftener the seat of neoplasms. With Paget's disease we are, indeed, tolerably familiar, but it is not often that we encounter real tumors of the nipple. Dr. O. Ehrhardt, of Königsberg (*Deutsche Zeitschrift für klinische Chirurgie*, l, 3, 4; *Centralblatt für Gynäkologie*, July 22d), records two examples. One was polypoid in form and of the nature of elephantiasis. The other was a carcinomatous nodule no larger than a pea, but it had already infected one of the axillary glands.

THE COLD-BATH TREATMENT IN DELIRIUM TREMENS.

In medicine, as well as in political affairs, history repeats itself. A long article on the treatment of delirium tremens with cold baths appears in the *Presse médicale* for July 8th. The method is not quite a novelty in France, although it seems to have fallen into disuse in that country. The author, M. Maurice Letulle, refers to a previous communication of his, published in the same journal in 1896, and cites authors of various periods as having favored the treatment. It has undoubtedly proved very efficacious in some severe cases. It was in vogue here in New York thirty years ago, and its chief promoter, if we remember aright, was Dr. Lewis A. Sayre.

GRACE HOSPITAL, TORONTO.

Our brethren in Toronto are to be congratulated on the transformation of Grace Homœopathic Hospital into plain Grace Hospital. We learn from the August number of the *Canadian Journal of Medicine and Surgery* that there is still to be a homœopathic staff, but also that there is to be what the secretary, in his official announcement, terms an "allopathic" staff. We hope that in time this distinction, too, will fade away.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the week ending August 5, 1899:

DISEASES.	Week ending August 5.	
	Cases.	Deaths.
Typhoid fever	43	15
Scarlet fever	54	5
Cerebro-spinal meningitis	0	11
Measles	156	8
Diphtheria	155	19
Croup	1	4
Tuberculosis	150	122
Small-pox	0	0
Chicken-pox	8	0

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending August 5, 1899:

Small-pox—United States.

Jacksonville, Fla	July 23–30	4 cases.	
Louisville, Ky	July 20–27	1 case.	
New Orleans, La	July 15–22	1 "	
Cleveland, Ohio	July 22–29	7 cases.	
Dayton, Ohio	July 22–29	3 "	
Philadelphia, Pa	July 22–29	1 case,	1 death.
Pittsburgh, Pa	July 22–29	1 "	
Portsmouth, Va	July 22–29	4 cases.	
Seattle, Wash	July 15–22	1 case.	
Tacoma, Wash	July 15–22	1 "	
Tacoma, Wash	July 22–29	1 "	

Small-pox—Foreign.

Bahia, Brazil	July 1–15	1 case.	
Hongkong, China	June 7–24	3 cases.	
Athens, Greece	July 7–15	16 "	5 deaths.
Bombay, India	June 27–July 4		8 "
Madras, India	June 24–30		1 death.
Chihuahua, Mexico	July 15–29		3 deaths.
Moscow, Russia	July 1–8	5 "	3 "
Odessa, Russia	July 1–8	6 "	
St. Petersburg, Russia	July 1–8	7 "	2 "
Beirut, Turkey	June 27–July 1	1 case.	
Smyrna, Turkey	June 28–July 16		5 "

Yellow Fever—United States.

Soldiers' Home, Hampton, Va	July 21–Aug. 1	40 cases,	8 deaths.

Yellow Fever—Foreign.

Bahia, Brazil	July 1–15	28 cases,	14 deaths.
Panama, Colombia	July 16–23	14 "	8 "
Manzanillo, Cuba	July 1–8		1 death.
Matanzas, Cuba	July 27	1 case.	
Santiago, Cuba	July 1–8		7 deaths.
Progreso, Mexico	July 26	2 cases.	
Vera Cruz, Mexico	July 20–27		20 "

Cholera.

Calcutta, India	June 17–24		3 deaths.

Plague.

Hongkong, China	June 10–24	257 cases,	255 deaths.
Bombay, India	June 28–July 4		43 "
Calcutta, India	June 17–24		7 "
Tamsui, Japan	May 24–31	90 "	66 "

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 29 to August 5, 1899:*

BALCH, LEWIS, Major and Surgeon, United States Volunteers, is assigned to station in Matanzas.

BANTA, WILLIAM P., Acting Assistant Surgeon, United States Army, will proceed to San Fernando, Philippine Islands, for duty in the Second Division Field Hospital.

BURNS, ROBERT, Acting Assistant Surgeon, United States Army, will proceed to Fort Ethan Allen, Vermont, and report to the commanding officer, Third United States Cavalry, for duty, to accompany that regiment to Manila.

CHMELICEK, JOSEPH F., Acting Assistant Surgeon, United States Army, will report for duty at the United States General Hospital at the Presidio, San Francisco.

DEAN, ELMER A., First Lieutenant and Assistant Surgeon, is assigned to duty at the United States General Hospital at the Presidio, San Francisco.

GARDNER, EDWIN F., Major and Surgeon, United States Army. The leave granted him is extended seven days.

HALL, WILLIAM R., Major and Surgeon, United States Army, will proceed to New York, and on completion of the duty assigned him will sail as a passenger on the United States hospital ship *Missouri, en route* to Manila, and on arrival will report to the commanding general.

KEEFER, FRANK R., Captain and Assistant Surgeon, United States Army, is relieved from duty with the board of officers appointed by Par. 2, S. O. 130, c. s., these headquarters, and CALVERT, WILLIAM J., First Lieutenant and Assistant Surgeon, United States Army, is appointed in his stead.

MAZZURI, PAUL, Acting Assistant Surgeon, United States Army, is assigned to the Department of Matanzas and Santa Clara, and will proceed to Matanzas for duty.

NORMAN, SEATON, Acting Assistant Surgeon, United States Army, having relinquished the unexpired portion of his leave, will proceed to Fort Monroe, Virginia, for temporary duty.

VON CLOSSMAN, AUGUST, Acting Assistant Surgeon, United States Army, and two privates of the hospital corps, will accompany Troop K, Third Cavalry, to Seattle, Washington, and return to Jefferson Barracks, Missouri.

WEAVER, FREDERICK C., Acting Assistant Surgeon, United States Army, is assigned to duty at the camp of recruits, at the Presidio, San Francisco.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 5, 1899:*

CRAWFORD, C. A., Assistant Surgeon. Detached from the *Wabash* and ordered to the *Massachusetts.*

ELLIOTT, M. S., Assistant Surgeon. Detached from the marine examining board and ordered to temporary duty at the marine recruiting rendezvous, New York, during the leave of absence of BOGERT, E. S., Passed Assistant Surgeon; upon completion of this duty, he is directed to await orders.

GROW, E. J., Assistant Surgeon. Detached from the *Massachusetts* and ordered to the *New Orleans.*

HERNDON, C. G., Surgeon. Ordered to the Museum of Hygiene for temporary duty.

PLEADWELL, F. L., Assistant Surgeon. Detached from the *Nashville* and ordered to the Bureau of Medicine and Surgery.

ROSENBLEUTH, J. C., Passed Assistant Surgeon. Detached from the *Vermont* and ordered to the *Nashville.*

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending August 3, 1899:*

WASDIN, EUGENE, Surgeon. To proceed to National Soldiers' Home, Virginia, for special temporary duty. July 29, 1899.

MAGRUDER, G. M., Passed Assistant Surgeon. To proceed to Hampton, Virginia, for special temporary duty, reporting at the bureau *en route.* So much of bureau order of July 31, 1899, directing Passed Assistant Surgeon Magruder to proceed to Hampton, Virginia, revoked, and directed to proceed to Richmond and Newport News, Virginia, for special temporary duty.

WERTENBAKER, C. P., Passed Assistant Surgeon. To proceed to Hampton, Virginia, and report to Surgeon J. H. WHITE for special temporary duty.

SMITH, A. C., Passed Assistant Surgeon. Leave of absence granted by bureau letter of June 20, 1899, revoked, and directed to rejoin station at Norfolk, Virginia.

STIMPSON, W. G., Passed Assistant Surgeon. To proceed to Fort Monroe, Virginia, for special temporary duty, reporting at bureau *en route.* So much of bureau order of July 31, 1899, directing Passed Assistant Surgeon Stimpson to proceed to Fort Monroe, Virginia, revoked, and directed to proceed to Newport News, Virginia, and report by wire to Surgeon J. H. WHITE, Hampton, Virginia, for orders.

BLUE, RUPERT, Passed Assistant Surgeon. To proceed to Columbus City, Washington, for special temporary duty.

SPRAGUE, E. K., Passed Assistant Surgeon. Leave of absence granted by bureau letter of July 27, 1899, revoked.

WICKES, W. H., Passed Assistant Surgeon. Leave of absence granted by bureau letter of July 27, 1899, revoked.

VON EZDORF, R. H., Assistant Surgeon. To report to Surgeon J. H. WHITE, Hampton, Virginia, for special temporary duty.

FRICKS, L. D., Assistant Surgeon. Relieved from duty at the South Atlantic Quarantine Station and directed to proceed to Hampton, Virginia, and report by wire for further orders.

THORNBURY, F. J., Assistant Surgeon. To proceed to Cleveland, Ohio, for temporary duty. Bureau order of July 28, 1899, directing Assistant Surgeon Thornbury to proceed to Cleveland, Ohio, for temporary duty revoked. Relieved from duty at New York and directed to proceed to Baltimore, Maryland, and report to the commanding officer for duty and assignment to quarters.

BEAN, L. C., Acting Assistant Surgeon. Granted leave of absence for fourteen days from August 4, 1899.

GIBSON, L. P., Acting Assistant Surgeon. Granted leave of absence for ten days.

MCGINNIS, R. H., Acting Assistant Surgeon. Granted leave of absence for three weeks from August 7, 1899.

MARTIN, H. McD., Acting Assistant Surgeon. Granted leave of absence for thirty days on account of sickness.

SMITH, A. W., Acting Assistant Surgeon. To proceed to Fort Monroe, Virginia, and report to Surgeon W. J. PETTUS for special temporary duty.

RODMAN, JOHN C., Sanitary Inspector. Granted leave of absence for four days.

KOLB, W. W., Hospital Steward. To proceed to Hampton, Virginia, and report to Surgeon J. H. WHITE for special temporary duty.

PECK, F. H., Hospital Steward. To proceed to Fort Monroe, Virginia, and report to Surgeon J. W. PETTUS for special temporary duty.

DAVIS, H. E., Hospital Steward. To proceed to Baltimore, Maryland, and report to commanding officer for temporary duty.

OLSEN, E. T., Temporary Hospital Steward. Relieved from duty at Chicago, Illinois, and directed to proceed to Wilmington, North Carolina, and report to commanding officer for duty and assignment to quarters.

Resignation.

DE KRAFFT, S. C., Acting Assistant Surgeon. Resignation accepted, to take effect July 15, 1899.

Appointments.

GOLDSBOROUGH, B. W., of Maryland, appointed acting assistant surgeon, United States Marine-Hospital Service, for duty at Cambridge, Maryland.

OLSEN, EGIL T., Temporary Junior Hospital Steward, appointed junior hospital steward from May 29, 1899.

Change of Address.—Dr. Mary Scott, to 400 East Genesee Street, Syracuse, New York.

Births, Marriages, and Deaths.

Married.

FLYNN—MACDONALD.—In Providence, Rhode Island, on Wednesday, August 2d, Dr. Henry Sherman Flynn and Miss Jessie Margaret MacDonald.

LE SAGE—BOUVIER.—In Montreal, Canada, on Thursday, August 3d, Dr. Joseph A. Le Sage and Miss Lora Bouvier.

LONG—WARMAN.—In Plainfield, New Jersey, on Wednesday, August 2d, Dr. Eli Long, Jr., of New York, and Miss Bertha F. Warman.

LUSK—MONAHAN.—In New York, on Monday, August 7th, Dr. Obed L. Lusk and Miss Margaret Graham Monahan.

Died.

BRINTON.—In Atlantic City, New Jersey, on Monday, July 31st, Dr. Daniel Garrison Brinton, of Philadelphia, in the sixty-third year of his age.

GILBERT.—In Quincy, Massachusetts, on Friday, August 4th, Dr. John H. Gilbert, in the sixty-seventh year of his age.

Greene. — In Easthampton, Massachusetts, on Wednesday, August 3d, Dr. Francis F. Greene, in the seventy-second year of his age.

Hunter.—In Caseara, Canada, on Sunday, July 30th, Dr. Robert Hunter, of New York, in the seventy-fifth year of his age.

McLeod.—In Florence, South Carolina, on Tuesday, August 1st, Florence I. McLeod, wife of Dr. F. H. McLeod.

Parker.—In Richmond, Virginia, on Thursday, August 3d, Dr. William W. Parker, in the seventy-fifth year of his age.

Shureman.—In Toms River, New Jersey, on Saturday, August 5th, Dr. Irving Clark Shureman.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS

By ARTHUR N. TAYLOR, LL. B.

XXXI.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(Continued from page 208.)

That Services were Gratuitous is no Defense.—In examining the contract of the physician as implied from his relations to his patients it was observed that the fact that his services were rendered without compensation or reward did not alter the character of his obligations to his patient or relieve him from liability for the breach of such obligation. This was not always considered the law, nor is it now the law as applied to the ordinary relations and affairs of life. Under the common law the degrees of negligence are usually characterized as slight, ordinary, or gross, and the particular degree of negligence which the defendant must have been shown to be guilty of in order to fix liability upon him varied in the inverse ratio of his compensation. If he was well paid for performing certain services he could be guilty of slight negligence only at his peril; if, on the other hand, he received no compensation, nothing short of gross negligence would be considered culpable; but where the compensation was the usual and ordinary amount liability would attach for damages suffered from ordinary negligence.

This was the rule which the courts applied at an early date in fixing the liability of physicians for professional errors.* The courts very soon, however, detected the pernicious effects which might be reasonably expected to follow the application of such a rule of liability to the practice of a learned profession like that of medicine, which deals not only with the health and, in a great measure, the happiness of the people, but their very lives; and, accordingly, by a line of well-considered decisions they have held the physician strictly to the prescribed requirements of professional ability and care, whether his services are paid for or gratuitous.† The reason and the necessity for this rule are clearly and urgently expressed in an instruction delivered by Justice Pryor, from which an extended quotation is made in chapter ii of this work.

The application of the rule of liability for error or neglect in medical treatment, whether compensation is made or not, is only applicable, it must be remembered, in cases where the defendant holds himself out as a physician and surgeon. If one not professing to be a qualified physician, and the patient not understanding him to be one, undertakes to render medical services without compensation, such services, though improperly rendered, will be considered by the court as a mere kindly or neighborly office and incapable of supporting an action for damages.*

Liability of Other than Qualified Physicians for Malpractice.—From the foregoing paragraph it must not be inferred that one who, in fact, is not a qualified physician, but who holds himself out as such, may escape any of the liability which attaches to a regular physician for improper treatment. The mere fact that one solicits patients, representing himself as competent to treat them, brings with it all of the penalties to which the regular physician is liable. Justice Lyon, in the case of Nelson *vs.* Harrington,† said the rule is elementary that a physician or surgeon, or one who holds himself out as such, whether duly licensed or not, when he accepts an employment to treat a patient professionally, must exercise such reasonable care and skill in that behalf as are usually possessed and exercised by physicians or surgeons in good standing, of the same system or school of practice, in the vicinity or locality of his practice, having due regard for the advanced state of medical or surgical science at that time. In this case the defendant was a clairvoyant physician or spiritualist, who professed to have no medical education or training; yet the mere fact that he held himself out as being possessed of ability to treat patients through the occult aid vouchsafed him, and accepted the duties and undertook the functions of a physician, rendered him amenable to the same law governing their liabilities.

Whether or not in such cases the defendant does hold himself out as a physician is usually a question of fact for the jury to decide from the evidence, and it is often a question requiring nice discrimination. In an early Wisconsin case the evidence adduced at the trial to show that the defendant held himself out as a physician was that he was called as a physician in the first instance; that he attended the case and consulted with a certain doctor; and that he was called doctor during his attendance. The evidence showed that he attended as surgeon seven weeks, assuming the whole direction and treatment of the injured limb, and went into consultation with other physicians and surgeons. Regarding this evidence the supreme court said: "These facts, though not perhaps direct proof of his holding himself out as a physician and surgeon, are sufficient to go to the jury as circumstantial evidence." ‡

In an early Ohio case the evidence showed that a farmer represented himself as a cancer doctor, having skill and experience in the treatment and cure of cancers, and claimed also to be in possession of a certain recipe or prescription, procured from a certain cancer specialist, that would remove cancers without affecting sound tissue. This evidence was considered sufficient to render him subject to the same liability as a qualified physician in the treatment of a malady of the character he professed to treat.*

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* Sherman and Redfield on Negligence; Richy *vs.* West, 23 Ill., 385.

† Dubois *vs.* Decker, 130 N. Y., 325; Becker *vs.* Janinski, 27 Abb. N. C., 45; McNevins *vs.* Lowe, 40 Ill., 209; Baird *vs.* Gillett, 47 N. Y., 186.

* Higgins *vs.* McCabe, 126 Mass., 13.

† Nelson *vs.* Harrington, 72 Wis., 591.

‡ Reynolds *vs.* Graves, 3 Wis., 416.

And in a more recent Illinois case one suffering from an injured finger went to a druggist for treatment, supposing him to be a physician. The druggist treated the finger wrongly, which resulted in an aggravation of the injury and final loss of the finger.

The court was of the opinion that the druggist, by treating the finger, the plaintiff believing him to be a doctor, held himself out as such, and was consequently chargeable in that character.†

General Scope of Physician's Liability.—Questions of liability innumerable in their nature and character may, and as a matter of fact do, arise, both from an inadvertent and from a willful violation by the physician of his duties and obligations to his patients. The cases heretofore considered are those in which the physician has failed to treat his patient with proper skill or care, or has been deficient in performing some duty nearly related thereto. An examination will soon be made of a few cases arising from acts either of omission or of commission, which contravene duties of a wider scope that he owes to his patients or employers. It will be observed, however, that in many of the illustrations following the familiar principles heretofore discussed will be involved.

Necessity of Consent to Surgical Operations.—As a general proposition of law, a surgeon must have consent before operating upon a patient. As a matter of law, however, the courts are disposed to imply consent to perform the particular operation from the fact that the patient has placed himself under the surgeon's care. A recent English case, which has justly provoked considerable unfavorable comment, is that of Beatty *vs.* Cullingsworth.‡ In this case the plaintiff, an unmarried woman, who was about to submit to the operation of ovariotomy, told the defendant, who is said to be one of the most eminent London surgeons, that if both ovaries were found to be diseased he must remove neither. He replied, "You must leave that to me." The plaintiff denied hearing this remark. Both ovaries were found diseased and were removed.

The plaintiff was engaged to be married, but upon learning that both ovaries had been removed broke her engagement, and later brought suit against the surgeon for malpractice. Justice Hawkins, upon the trial of the case, charged the jury in effect that the plaintiff had tacitly consented to the operation, whereupon they returned a verdict for the defendant. A prominent legal journal, in commenting on the case, says: "The action of the court in this case has met with very general criticism upon the ground that the facts involving a direct prohibition would seem to exclude the possibility of implying consent. As a contemporary says, it is one thing for a surgeon to refuse to operate unless unlimited discretion is confided to him and quite another thing to deliberately disobey express instructions. Undoubtedly the defendant's wisest course would have been to refuse to operate unless the scope of his authority was agreed upon in advance." #

This case can not be safely considered the law in this country, for an American court would not, it is thought, instruct the jury, under like circumstances, that there was a tacit consent to the operation, but would leave it for the jury to determine whether the evidence before them showed a tacit consent. In short, in nearly all cases of this sort the question is one of fact, for the determination of the jury, rather than of law.

An important question of law arises, however, when an operation is performed upon a wife or upon a child, as to whether or not the surgeon must first secure the consent of the husband or parent. In a well-considered case the court of appeals of Maryland denies that a husband has the right to withhold his consent to the performance of a necessary surgical operation upon his wife. The court, speaking through Justice Yellott, said: "Surely the law does not authorize the husband to say to his wife, You shall die of the cancer; you can not be cured, and a surgical operation affording only temporary relief will result in useless expense. The husband has no right to withhold from his wife the medical assistance which her case might require." *

Following the reasoning of this decision, one can not see why a physician should be required to secure the consent of a parent before operating upon a child, provided the child was of proper age and discretion to understand the nature and effect of the operation proposed. As there seems to be no precedent upon this particular point, the question can not be authoritatively answered until a case involving the question shall arise which the parties thereto think sufficiently important to take to a court of last resort.

(*To be continued.*)

Pith of Current Literature.

Trophic Disturbances of the Bladder following Gynæcological Operations.—Mirabeau (*Centralblatt für Gynäkologie*, 1899, No. 11; *American Journal of the Medical Sciences*, August) calls attention to the fact that the vesical irritation so often observed after operation is usually referred to infection or mechanical injury, while in a few instances it has been due to ligatures which have made their way into the bladder. He reports two cases of cœliotomy, with persistent vesical symptoms, in which cystoscopic examination showed general anæmia and atrophy of the mucous membrane, evidently due to circulatory disturbances, the arteries being abnormally small, while the veins were prominent. He inferred that the collateral circulation had not been established as usual after ligation of the vesical arteries. In these cases treatment of the bladder itself may do more harm than good. Massage, the separation of adhesions, and softening of exudates in the neighborhood of the organ are indicated. As a prophylactic measure the surgeon should avoid mass ligatures and ligate the vessels separately so far as possible, sparing those which supply the bladder.

Hæmorrhage from the Sæptum Nasi.—Dr. Marcel Natier (*Laryngoscope*, August), in a paper on Three Cases of Spontaneous Hæmorrhage from the Sæptum, says that when the source of the bleeding is located our action should always be to promptly check it. The means may be varied. Having no other means, we can bathe the parts in hot water, or use simple astriction, or tamponing. The flow being unilateral, it suffices to tampon the side from which it comes. It is rare that it is necessary to plug both the anterior and posterior nares. If the blood comes from the anterior part of the cavity, it is necessary to apply the plugs at that level, and to notice if the flow stops. But this is not radical treatment. A permanent cure is to be effected only when the cause has been removed. The point to be aimed at is to transform the ulcerated and friable mucous membrane at the level of which the blood flows into cicatricial tissue. This can be accomplished with either nitrate of silver, chromic acid, or the galvanocautery. From conviction the author always employs the latter, and always successfully. The instruments are simple, and one can have them constantly available for either office or outdoor practice. If the battery is not available one could use the chromic acid or silver. But, in the author's opinion, the actual cautery, as represented by a probe heated red hot over a spirit lamp, is preferable.

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* Musser *vs.* Chase, 29 Ohio St., 577.

† Matthei *vs.* Wooley, 69 Ill. App., 654.

‡ Beatty *vs.* Cullingsworth, Q. B. Div., 44 Cent. L. J., 153.

# 44 Cent. L. J., 153.

* Janney *vs.* Housekeeper *et al.*, 70 Md., 162.

Serum Therapy in Tuberculosis.—Dr. C. P. Ambler (*Journal of the American Medical Association*, July 8th), in a paper read before the American Medical Association at Columbus, reports one hundred and six cases of tuberculosis treated during the year 1898 by serum therapy in conjunction with climatic and strict hygienic supervision of the patient. The author says that in presenting this report of cases he wishes to place himself on record as attributing the results obtained to these three factors in the order named.

The most rigid observations of all directions as to hygiene, following closely what has been found after several years' experience in institutional work to be the best for this class of patients, have been insisted on. This has included particularly the avoidance of overexertion; the regulation of diet; exercise and rest in bed; the observation of temperature and pulse; regulation of excretory functions; instruction as to the time for eating heaviest meals; time to elapse between meals; cold bathing; proper dress; fresh air; breathing exercise; taking of stimulants; sexual indulgence; and in fact all those little things which in themselves once occurring are nothing, but which often repeated, and carried to excess, have a marked influence on the wellbeing of the patient.

The climate of Asheville has been, in the author's opinion, of valuable assistance. The author's experience with serum has extended over two years in a private practice devoted to the treatment of tuberculous diseases. His classification of cases is not in the usual set of "stages," but in Class A he records all those cases which in his opinion had, on commencing treatment, a fair prospect of recovery. In Class B he includes those cases in which great improvement might be expected, but a complete recovery was doubtful. In Class C are placed cases presenting such complications or extensive involvement as to preclude much encouragement being given.

Under this classification the author has considered the patient's chances from all points of view: his physical condition, history, temperament, hygienic habits, surroundings, and his financial condition. This latter, says Dr. Ambler, may seem a cold-blooded cause for classification, but nevertheless in all cases it becomes of importance. For instance, one case in Class A could not have been so classified (cavity being present) if the patient had not been financially able to refrain from work and conduct herself as one with a rapid heart must necessarily do if recovery is to be expected. Again, one case in Class C could have been placed in Class B had the patient been able to stop work. As it was she was a charity patient, compelled to work to pay her board, and did not do well.

Class of Cases in which Serum is Indicated.—The use of antitubercle serum would seem to be indicated in the incipient cases, and more especially in those presenting a simple infection. Good results have also been accomplished in a majority of the cases classified under Class B, while in advanced cases the progress of the disease can often be temporarily arrested and distressing symptoms relieved, but the remedy, even under most favorable circumstances, fails as everything must fail, to bring about recovery in such cases.

Contraindications.—Generally speaking, the use of antitubercle serum seems to be contraindicated in cases of miliary tuberculosis, in cases of extensive softening, high pulse, marked emaciation, or decided hereditary history. This means that these cases will, in all probability, progress, no matter what form of medication is used. As a rule, the injections have not been given where the temperature reached a maximum of over 101° F. daily, the author's experience having been that such a temperature in an early case was invariably the result of some indiscretion on the part of the patient.

Advantages over other Forms of Medication.—The hypodermic injection of the remedy precludes the possibility of direct interference with the processes of digestion and assimilation. The absence of medication by the stomach is, with proper instruction as to diet, certainly to the advantage of the patient. There is less indigestion, less flatulency, less bowel complaint, and invariably a better appetite with corresponding power to better digest and assimilate a full meal of ordinary breadstuffs.

The author's experience corresponds exactly with that of Dr. J. Edward Stubbert, of the Loomis Sanitarium for Consumptives, in that the bacilli disappear from the sputum long before the latter has entirely ceased. Relapses during treatment and after are much less frequent than under any other form of medication Dr. Ambler has ever tried. This in itself means much when it is remembered that in the usual course of tuberculosis the disease is one of relapses.

Patients cited as "cured" have returned to their homes, and in no instance, to the author's knowledge, has a case in Class A relapsed up to this time, notwithstanding that many are in unfavorable locations and others are back at work. Whether, says the author, a certain degree of immunity has been established, or whether the elimination of the tuberculous products has been more certain, the fact remains that *serum patients do not relapse like those treated with creosote and other allied drugs.*

Furthermore, during the entire time that these one hundred and six cases were being treated, but two patients had hæmorrhage serious enough to warrant calling a physician, while fifty-five gave a history of having bled prior to the time of beginning treatment.

Night sweats have been more easily controlled. During the weeks and months necessary for the contraction and cicatrization of small cavities, *the patients* *have remained free from distressing symptoms, and have not shown the symptoms of relapse or involvement of new tissue.*

As a rule, Dr. Ambler has observed that the expectoration materially increased during the first two weeks of treatment, and then rapidly diminished in the favorable cases, changing in character as well as in amount, becoming lighter, losing its purulent character, and finally appearing as a gelatinous mass. In the far-advanced cases, or in *those with extensive cavity formation, this influence on the expectoration was usually negative.*

Length of Time to be Administered.—The injections have been continued in those cases reported as "cured" for several weeks, and in a few cases for months, following the disappearance of tubercle bacilli, the microscopic examination being frequently made during this time. In this class of patients no unpleasant symptoms have followed the long-continued use of large doses.

Accidents following Administration.—In about fifty per cent. of all cases treated a local erythema occurred over and around the point of injection, during the first week. In a small percentage this erythema became more general, and in three cases was well marked from the waist to the feet. After the first week no such local or general redness of the skin followed the injection. Local swellings at the point of injection and occasionally at adjacent joints, pain in the joints, and itching of the skin were frequently complained of for the first few days. When enlarged lymphatic glands have been present, especially the cervical and axillary glands, these have invariably been found to enlarge and become tender during the first two weeks, and if not caseous, they have then gradually diminished in size and finally disappeared entirely.

The symptoms mentioned above are not serious, says the author, but only annoying to the patient. The only really serious symptom observed by the writer has been a sudden attack of syncope occurring in from one to five minutes following injections and lasting about two minutes. This has occurred in five per cent. of all cases, being accompanied by flushed face, followed by pallor, weak heart, pain in the back, nausea, and in one case violent vomiting, and is believed to be due to the injection of the serum into a small vein. This distressing symptom passes off in a moment on placing the patient in a recumbent position, and, so far as Dr. Ambler can determine, has never been detrimental to the patient.

On account of these local and systemic symptoms the author has made it a rule to begin with a small injection, 0.2 cubic centimetres, gradually increasing to 0.5 cubic centimetres, remaining at this dose for a few days, and then gradually increasing to one cubic centimetre, rarely exceeding two cubic centimetres at a dose, the injection being given daily in the loose skin above and behind the crest of the ilium, using a cubic centimetre graduated syringe with the smallest sized Green hypodermic needle. The use of such fine needles for serum therapy compels the greatest possible attention to the instrument in order to keep the needle patent; hence the fine needle is not only more agreeable to the patient, but more liable to be rendered aseptic in order to be of service.

Serums Used.—Serums from three different manufacturers were used, the whole amount being approximately eight thousand cubic centimetres. Having in the course of a very few months observed decidedly the best results from the use of Fisch's antiphthisic serum T. R., the others were discarded; altogether about six thousand cubic centimetres of Fisch's serum were used. This product, Dr. Ambler says, has invariably proved stable when properly handled, in but two bottles cause for complaint being found, due in both instances to infection from loosening of the stopper during transit.

Remarks.—The use of antistreptococcic serum in conjunction with antitubercle serum in the author's hands has not proved of much benefit. Streptococci have disappeared in favorable cases without it, and in advanced cases have remained, no matter whether it was given or not.

The following is a summary of the author's cases:

In Class A (numbering 46 cases) in 35, or seventy-six per cent., cough and expectoration disappeared, while in all cases they were diminished; bacilli disappeared in 41, or eighty-nine per cent.; weight was gained in 44, or ninety-six per cent., and vital capacity increased in all cases; temperature and pulse became normal in 44, or ninety-six per cent.; 35 cases, or seventy-six per cent., were apparently cured; 9, or twenty per cent., greatly improved; 1 improved; 1 remained stationary; none grew worse or died.

In Class B (numbering 28 cases) cough and expectoration disappeared in 3, or eleven per cent., and diminished in 19, or sixty-eight per cent.; bacilli disappeared in 8, or twenty-eight per cent.; weight was gained in 26, or ninety-three per cent.; and vital capacity in 27, or ninety-six per cent.; temperature and pulse became normal in 17, or sixty-one per cent.; 6, or twenty-one per cent., were apparently cured; 13, or sixty-four per cent., greatly improved; 8, or twenty-eight per cent., improved; none remained stationary; 1 died.

In Class C (numbering 32 cases) cough and expectoration disappeared in none, were diminished in 18, or fifty-six per cent.; weight was gained in 22, or sixty-nine per cent., and vital capacity in 25, or seventy-eight per cent.; temperature and pulse became normal in 10, or thirty-one per cent.; none were apparently cured; 9, or twenty-eight per cent., were greatly improved; 5, or sixteen per cent., improved; 6, or nineteen per cent., remained stationary; 11, or thirty-four per cent., grew worse; and 1, or three per cent., died.

The Uses of Hyoscine.—Dr. J. T. Fotheringham (*Canadian Practitioner and Review*, July) thinks that hyoscine is not used so frequently as its merits, in properly selected cases, would justify. The salt commonly employed is the hydrobromide in doses usually of one one-hundredth of a grain. The profession at large is aware that it is used in the asylums for the insane, in maniacal cases, but is not aware of the valuable service it can render in general practice. The author has, within the past five months, used it with marked benefit in several cases widely differing in character, and has been impressed with its good results.

Dr. Fotheringham then gives abstracts of his five cases. The first was that of an old lady of eighty who feel rapidly into a state in which death seemed imminent, very slow and irregular pulse, dry, brown tongue, obstinate wakefulness and night terror, long fits of screaming, with almost total suspension of assimilation and excretion. Hyoscine hydrobromide, one one-hundredth of a grain by mouth in the evening, repeated in two hours when necessary, with another hundredth of a grain in the morning, controlled this cortical activity excellently and promptly whenever given, and in two weeks or so, with nux vomica and proper attention to feeding and excretion, with the occasional use of a mixture containing digitalis, nitroglycerin, and ammonium bromide, she made an excellent recovery. The second case was that of a woman of sixty-seven who developed meningitis on convalescence from pneumonia. The third case was one of mild hysteria in a young married woman. The fourth a case of severe hysteria in a girl about eighteen. The fifth was a case of acute rheumatic exacerbation of an endocarditis, long previously existing, in a young man of about twenty. There were sleeplessness and delirium accompanying circulatory disturbance in the brain.

The author says that cases even so divergent as these do not indicate the whole range of usefulness of the drug. Hare says that it is "certainly of great value in spermatorrhœa and nocturnal emissions." Also that it acts mainly on the cerebrum (he might have said the cortical areas), and that "it is of value as a hypnotic only in a very limited class of cases, but in this class generally acts most favorably." These are cases of insomnia due to acute mania, delirium tremens, hysteria, or similar cause—one might say, perhaps, cases in which there is functional overactivity of the higher centres without undue depression of the vegetative centres; for experience in insane asylums has shown it to be injurious to melancholics, and in general paresis, chronic mania, epilepsy, and dementia it is no better than chloral, but is apt by constant use, at least in some cases, to increase excitement. Peterson (*New York Medical Journal*, October 11, 1890) found it very efficacious in controlling the tremor of paralysis agitans.

Objections to the drug are, first, the uncertainty of its action, a peculiarity common to all drugs the brunt of whose influence falls upon the nervous system. Idiosyncrasy may cause alarming cardiac, respiratory, or spinal depression. Like all drugs from the atropaceæ, it dilates the pupil, dries up the throat, and if pushed may cause dizziness, delirium, and an erythema of the skin. Some authorities have insisted that it must be given by hypodermic injection, but the writer has seldom so used it, and has been amply satisfied with its action given by the mouth. It may cause croupy breathing, probably from laryngeal dryness, and, in spite of the benefit evident in a case of insomnia from cardiac disease which is detailed, it is usually considered less safe than morphine in such cases.

The Treatment of Vaccination Sores.—Dr. A. K. Bond (*Maryland Medical Journal*, July 1st) says that the belief prevails in the community that a sore half an inch or more in diameter suppurating for weeks, or even for months, is an occasional sequel of successful vaccination which must be borne with patience, and is to be treated as well as may be with dressings of mild powders and salves of various sorts. The exposure of this error is the author's motive for writing. He knows by experience in their treatment that the most repulsive of such sores may be caused to cease suppurating and to become a dry-scabbed sore in even a single painless dressing and may be healed within perhaps a week. At first he supposed that this fact was known to the mass of practitioners, but apparently it is not. The dressing referred to is a solution of nitrate of silver, about eighty grains to the ounce of distilled water. When such a sore is brought to him he removes the scab, if it has one, washes the surrounding skin clean, perhaps using alcohol, and mops the sore carefully with the silver solution until its surface is covered with a thick layer of white. When this has dried, a dressing of absorbent cotton with bismuth, or what not, dusted on it is applied. The pain of the silver in this strength is insignificant, the itching and irritation greatly diminish or disappear, the suppuration is permanently, or for many days, stopped, and the patient almost forgets the sore. In some cases the dressings begin after a week or more to become soaked with pus. A second nitrate-of-silver application may then complete the healing.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of April 12, 1899.

The President, Dr. WILLIAM L. STOWELL, in the Chair.

The Effects of Influenza on the Eye.—Dr. H. S. OPPENHEIMER read a paper on this subject. (See page 225.)

Dr. A. T. MUZZY said he should not attempt to give any extensive statement after such an exhaustive paper. He had listened with a great deal of pleasure to the review of the conditions resulting from this very widespread affection, and the many forms of eye trouble that may follow. In his own experience he had not met any of the severer forms of eye trouble coming on from influenza. Those that had fallen to his lot had been the lighter forms of keratitis and paresis of muscles. In the epidemic of 1889 his experience seemed to run almost wholly to conditions of the cornea and conjunctiva, and, while they did not seem to differ from keratitis coming from other conditions, they had one characteristic which did not coincide with the mass of material that Dr. Oppenheimer had given—namely, they yielded promptly to treatment. The epidemic this past winter had shown, on the other hand, in his experience, an entirely different form of affection, being characterized almost wholly by affections of the muscles of the eye, heterophoria. These cases under proper treatment and proper glasses were completely relieved, the muscular balance returning to a normal condition. He thought the inflammation of the globe arose from a very widely disseminated constitutional condition, and when it affected the eye it showed itself more from the irritation of the circulation; but this winter the cases coming on from milder cases of grippe were followed by light forms of paresis, which disappeared under proper tonic treatment of the eye as well as of the general health.

Dr. ADOLPH RUPP said that as a general practitioner he had not been obliged to send any of his grippe cases to the ophthalmologist; they generally got well under ordinary treatment. The cases reported by Dr. Oppenheimer were interesing, and had made him think of possibilities that might occur—for instance, he recalled some cases that later on he had sent to the ophthalmologist that might possibly have been caused by the grippe influence. From the bacteriological discussion of the matter, it would seem that the grippe bacillus, whatever it is, probably the smallest of all the bacilli or cocci, has not been the only influence, but that the pneumococci and all the cocci had something to do with it. It was hard to distinguish whether all these bacterial influences were not merely coincidental and not causative.

Dr. Oppenheimer said that when he used pilocarpine he usually had the patient lie down in bed, and gave it hypodermically in small doses, increasing the amount cautiously, because it had a decided depressing influence on the heart's action. It was wise to have a quick stimulant on hand to inject in case there were unpleasant consequences. He found that the more perspiration he could induce the better the results. He had seen some rather alarming symptoms in two different cases, which made him very careful in the injection of pilocarpine, always having the patient in a recumbent position, and having whisky or ammonia, or some other stimulant, ready.

A Codfish Bone removed from the Anterior Abdominal Wall.—Dr. Fielding Lewis Taylor presented a specimen which appeared to be a rib of a codfish, about an inch and a half long, slightly curved, sharply pointed at one end and broken off obliquely at the other. A woman, aged fifty years, came into the clinic at the Hudson Street Hospital and stated that she had a tumor in the side. Examination showed a tumor of about the size of an egg situated in the left nipple line, about three inches below the free border of the ribs, and adherent to the skin. No tenderness was present. She said that she had had syphilis and that her family physician thought this was perhaps a return of her old trouble. She was given mixed treatment. About ten days later she returned and said that she had recently suffered much pain in the tumor, and that morning she had found the specimen presented projecting and had pulled it out. Upon further questioning, she said that she had eaten some codfish about five weeks before and had experienced considerable pain in the stomach for many days afterward. Examination showed the tumor was broken down at its centre, and a probe showed the existence of a narrow sinus.

(*To be concluded.*)

Book Notices.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Volume II. June, 1899. Surgery of the Abdomen, including Hernia—Gynæcology—Diseases of the Blood. Diathetic and Metabolic Disorders. Diseases of the Spleen, Thyreoid Gland, and Lymphatic System—Ophthalmology. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. vi–2 to 468.

The second volume of this periodical contains very thorough consideration of all recent matters in the fields of abdominal surgery, gynæcology, blood diseases, diatheses, and ophthalmology. The contributions are all characterized by editorial ability and are fully in keeping with the standard established by the first volume. Among a number of similar publications it is difficult to choose, but certainly there is none the superior of *Progressive Medicine.*

Clinical Diagnosis: The Bacteriological, Chemical, and Microscopical Evidence of Disease. By Dr. Rudolf v. Jaksch, Professor of Special Pathology and Therapeutics, and Director of the Medical Clinic in the German University of Prague. Specially revised and enlarged by the Author from the Third English Edition of the Translation by James Cagney, M. A., M. D. Fourth Edition. With Numerous Illustrations (partly in Colors). London: Charles Griffin & Co., Limited. Philadelphia: J. B. Lippincott Company, 1899. Pp. xxv–535.

It is a pleasure to call attention to the fourth edition of this estimable work. As compared with the third edition, it shows the moderate amount of revision that a brief period of time might be expected to require; the additions, however, are not numerous. As everybody knows, the work is one of the best of its class.

The Study of the Hand for Indications of Local and General Disease. By Edward Blake, M. D., Member of the Royal College of Surgeons, etc. Second Edition. London: Henry J. Glaisher. New York: G. P. Putnam's Sons, 1899. Pp. xvi–135. [Price, 5*s.*]

An interval of four months between the appearance of an edition of a medical work and its exhaustion would indicate the value of the work and would presuppose that the second edition would be little more than a reprint. The first of these indications is amply justified, and we have already expressed our high opinion of the worth of the book. The second assumption, however, is far from being warranted in the present instance, for the edition before us is little short of a new work. We do not mean that the features we found commendable in the first edition are lacking in the second, but much has been added to them, with the result that the later work becomes both more pretentious and more complete. Not to enter unnecessarily into details, the additions are to the credit of the author, particularly those referring to cerebro-spinal diagnosis by the hand and to the clinical significance of the several forms of tremor.

The Newer Remedies. Including their Synonyms, Sources, Method of Preparation, Tests, Solubilities, Incompatibles, Medicinal Properties, and Doses as far as known, together with Sections on Organotherapeutic Agents and Different Compounds of Iron. A Reference Manual for Physicians, Pharmacists, and Students. By Virgil Coblentz, A. M., Phar. M., Ph. D., F. C. S., Professor of Chemistry and Physics in the New York College of Pharmacy, etc. Third Edition, revised and very much enlarged. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. vi–9 to 147. [Price, $1.]

The last edition of this work was published in 1896, and since that time the additions to the class of synthetic remedies have been exceedingly numerous. For this reason the appearance of a third edition of the book is a matter of importance to all therapeutists who make any pretension to "keeping up" in their reading. The list of drugs afforded by the book is most complete, and the information as to chemistry and composition, action, and dose is given with brevity and clearness. Not only are true chemical compounds described, but many of the various proprietary mixtures with which the market abounds. In the present edition there have been added a brief descriptive chapter of the remedies prepared from animal tissues and another on the indifferent compounds of iron. The importance of these additions is self-evident. The book, in our opinion, is one of the greatest value and usefulness. Indeed, it is difficult to see how one can keep in touch with modern therapeutics unless some work like this is constantly at hand for reference.

Massage and the Original Swedish Movements. Their Application to Various Diseases of the Body. By Kurre W. Ostrom, of the Royal University of Upsala, Sweden. Fourth Edition, revised and enlarged. With One Hundred and Five Illustrations. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. viii–9 to 168. [Price, $1.]

The fourth edition of this well-known handbook preserves the valuable features of its immediate predecessor while containing a considerable proportion of added matter that the progress of the forms of treatment with which it deals has required. As has been apparent by the favorable reception accorded to the earlier editions, the work is to be rated as most excellent.

International Directory of Laryngologists and Otologists. Containing Names and Addresses of Practitioners engaged in the Study and Practice of Laryngology and Otology. Compiled by Richard Lake, F. R. C. S. Published under the auspices of the *Journal of Laryngology, Rhinology, and Otology.* The Rebman Publishing Company, 1899. Pp. 111.

This little book will doubtless prove of service to practitioners whose patients are given to travel. It contains a fairly complete and accurate list of the various specialists in laryngology, rhinology, and otology, arranged in alphabetical order, with the cities in which they practise appended to their names; and in a second division the principal cities of Europe and America, and a few in Asia, follow in alphabetical order with the practitioners' names and addresses in like order.

BOOKS, ETC., RECEIVED.

A Text-book of Pharmacology and Therapeutics; or, the Action of Drugs in Health and Disease. By Arthur R. Cushny, M. A., M. D. Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan, etc. Illustrated with Forty-seven Engravings. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. 5 to 730.

Handy Book of Medical Progress. A Lexicon of the Recent Advances in Medical Science. By Charles Warrenne Allen, M. D., Consulting Dermatologist to the Randall's Island Hospitals, etc., and Jacob Sobel, A. B., M. D., Dermatological Assistant at the Good Samaritan Dispensary, etc. New York: William Wood & Co., 1899. Pp. iv–184.

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment and Drugs. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by Judson Daland, M. D. (Univ. of Penna.), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc. Volume II. Ninth Series, 1899. Philadelphia: J. B. Lippincott Company, 1899. Pp. ix–310.

The Retrospect of Medicine. A Half-yearly Journal, containing a Retrospective View of Every Discovery and Practical Improvement in the Medical Sciences. Edited by James Braithwaite, M. D. Lond., Obstetric Physician and Surgeon to the Leeds General Infirmary, etc., and E. F. Trevelyan, M. D. Lond., B. Sc., M. R. C. P., Assistant Physician to the Leeds Infirmary, etc. Volume 119. January–June, 1899. London: Simpkin, Marshall, Hamilton, Kent, & Co., 1899. Pp. xxvi–463.

Mount Sinai Hospital Reports. Volume I, for 1898. Edited for the Medical Board.

Twelfth and Thirteenth Annual Reports of the Allegheny General Hospital, Allegheny City, Pennsylvania, for the Fiscal Years ending December 31, 1897, and December 31, 1898.

Thoracic Resection for Tumors growing from the Bony Wall of the Chest. By F. W. Parham, M. D., of New Orleans. Read before the Southern Surgical and Gynæcological Association, Memphis, November, 1898.

Notes upon Injuries of the Head and Tubercular Pelvic Peritonitis. By Charles C. Allison, M. D., of Omaha, Nebraska. Read before the Western Surgical Society, December 29, 1898.

The Opening of the New Lakeside Hospital. By Hunter Robb, M. D., of Cleveland. [Reprinted from the *Cleveland Medical Gazette.*]

Saw Palmetto. Contribution from the Laboratory of General Chemistry, University of Michigan. By P. L. Sherman and C. H. Briggs. [Reprinted from the *Pharmaceutical Archives.*]

A Case of Torticollis and its Latest Treatment. By S. Grover Burnett, M. D., of Kansas City.

Prognosis in Chronic Valvular Affections of the Heart. By N. S. Davis, Jr., M. D., of Chicago. [Reprinted from the *Medical News.*]

The Treatment of Tuberculosis: A Therapeutic Measure based on Physiologic Considerations. By J. F. Peavy, M. D., of Asheville, North Carolina. [Reprinted from the *Journal of the American Medical Association.*]

Miscellany.

Distilled Water as a Beverage.—The following practical editorial remarks appear in the *American Kitchen Magazine* for July:

"There is a difference between a beverage and a medicine, and while no one will dispute the fact that there are many cases in which the use of distilled water by a physician's direction has proved of value, there are many reasons why the habitual use of distilled water as a beverage may not be beneficial.

"Many firms with a shrewd eye to business have taken advantage of the 'microbe scare' to place upon the market various forms of distilled water, and have not hesitated to make certain statements, which would be remarkable if true, calculated to attract attention.

Certain persons with a sincere idea of benefiting mankind have seen that it was easier to influence ordinary people in regard to articles of drink than in regard to their daily food habits. Thus hundreds of persons will faithfully drink lithia water when they would not submit to a diet which might accomplish the same purpose.

"Similarly the use of distilled water on the table is much simpler than the banishment of certain articles of food or the restriction of an overactive appetite to the needs of an underactive life.

"Water is the universal solvent, and in the human body it carries both food to and waste from the cells and tissues. Water has a selective action in that it dissolves more of some substances than of others, and it drops out one set of salts in the presence of other salts. But, on the other hand, water containing a portion of one salt often dissolves more of another than if it were pure. Water containing common salt dissolves globulin, vitellin, and certain other animal nitrogen substances which are not soluble in pure water, and it is probable that this property has some bearing in the animal economy.

"Distilled water taken on an empty stomach would tend to leach out the cells with which it came in contact, and we know that the life of the cell depends upon the maintenance of its contents at a certain standard. This is a well-established fact and not, as one advertisement implies, a vision of a mad microscopist. The testimony of physicians that the prolonged use of distilled water has a tendency to decrease the body weight shows a lessening of nutritive power in the tissues.

"Most persons eat enough salt on their food to bring up the average, and many persons in middle life and after, eat too much of all kinds of food and drink too little fluid, so that for them a course of distilled water may be most beneficial, carrying away an excess which would be harmful.

"Since it is true that the same person may accustom himself to the softest waters of the Atlantic coast after having lived for years in the limestone region of the West, where the water contains one hundred times as much mineral matter, and *vice versa*, it will be seen that habit has much to do with the case. The system soon adjusts itself to the demands made upon it unless it is enfeebled by abuse.

"If an individual over forty is living on potatoes pared before cooking, white bread, unsalted butter, cream, fruit, and sugar, then distilled water would be superfluous if not harmful; but if the diet is rich in meat, in cereals, in milk, and abundant at that, it is very probable that distilled water would remove more of the excess than would a hard water taken as a beverage."

The Liverpool School of Tropical Diseases Research Expedition to West Africa.—We learn from *Science* for August 4th, quoting the London *Times*, that the Colonial Office writes that "Mr. Chamberlain had learned with great satisfaction that the expedition of the Liverpool school is being sent, and appreciates the energy and public spirit shown by the committee of the school in the matter. The authorities at Sierra Leone will be instructed to give every facility to the work of the expedition." The colonial office have also sent for the use of the school valuable medical and sanitary reports of various tropical colonies, and the India Office have sent their medical publications. The British Museum directors have been invited to send with the expedition their dipterologist, Mr. E. E. Austen, offering to pay his expenses. The expedition is expected to throw an important light on the theory held by Major Ross and others as to the propagation of malaria by mosquitoes. The expedition was to start on July 29th and proceed direct to Sierra Leone, and will set to work at once in a district which then happens to be peculiarly unhealthy. It is intended afterward to make investigations at Accra. The Belgian government have sent an officially appointed delegate, Dr. S. Van Neck, to visit the Liverpool School of Tropical Diseases and accompany the expedition.

Concerted Sanitary Action in Australasia.—According to *Science* for August 4th, the Australasian Association for the Advancement of Science has received general support from the various provincial governments for its recommendations: *a.* That a system of compulsory notice of infectious diseases be introduced. *b.* That a system of federal quarantine be introduced. *c.* That stock, the milk or flesh of which is intended for consumption, be examined by duly qualified men, and slaughtered, if found tuberculous or cancerous.

Death of a Veteran Physician.—From the *Medical Times* for August we learn that Dr. William Russell, of the class of 1826, the oldest Harvard graduate, died recently at the age of ninety-nine, being, we understand, a practising physician.

The Occidental Medical Times.—The *Occidental Medical Times,* formerly published in Sacramento, has now amalgamated with the *Pacific Record of Medicine and Surgery.* The title of *Occidental Medical Times* is retained, but the publication office is removed to San Francisco. Dr. James H. Parkinson remains the editor, and associated with him is Dr. Louis A. Kengla, editor of the *Record.*

Naval Medical Men of the University of Virginia.—A medical officer of the navy sends us the following:

"In comparing the representation of the several colleges in each State, as seen in the medical corps of the navy, the University of Virginia may be said to stand first. I shall not attempt to give a history of the life of each individual, but of those I know I shall give a few sketches of their careers as naval surgeons. Taking them in the order of seniority, let us begin with the fleet surgeon under Admiral Dewey's command at the battle of Manila Bay.

"Dr. John C. Wise received the greater part of his scientific education at the University of Virginia, and he openly asserts that he owes his success to its thorough teaching. Born October 7, 1848, in Acommac County, Virginia, he attended the schools of the Reverend James D. Gatewood and the Reverend James Herbert, in Norfolk, from 1857 to 1861, entered the University of Virginia at the session of 1867–'68, and became a member of the Delta Pi fraternity. Graduating in medicine, he was elected by the faculty adjunct professor of hygiene and medical jurisprudence at Bellevue College and resident physician of the College Hospital. He was appointed assistant surgeon in the navy in March, 1870, and was the first Southerner appointed after the civil war. His first duty was on the *Guerrière,* on the European station. He served at the navy yard at Norfolk in 1874, and was promoted to passed assistant surgeon the same year. He was on the *Dispatch* (stationed at Constantinople) during the Turco-Russian war of 1875–'76. Returning home, he was ordered to the *Minnesota*. He was promoted to be surgeon in 1882, and ordered to torpedo station and from there to the Asiatic station, where he remained until 1893, when he was made a member of the board of inspection and survey. He remained on this duty until his promotion to be medical inspector in 1896, when he was appointed naval delegate to the Association of Military Surgeons, and in 1897 he was elected vice-president of that association. He was then detailed as fleet surgeon of the Asiatic station and participated in the fleet action in Manila Bay on May 1–3, 1898.

"Dr. Presley Marion Rixey was born in Culpeper County, Virginia, in 1852, received his diploma as doctor of medicine from the University of Virginia in 1873, attended hospitals and other clinics in Philadelphia, and entered the navy in 1875. His first duty was on the *Sabine*, and his next was at the Norfolk navy yard, 1877–'79, from which station he was ordered to the *Tallapoosa*, after which he was given special duty in Washington, where he has continued to serve, except when ordered on sea duty, until the present time. He was decorated with the Order of Naval Merit by Alphonso XIII for services rendered to the officers and crew of the caravel *Santa Maria* on the occurrence of an explosion on that vessel in New York harbor in 1893.

"Dr. L. G. Henneberger was appointed from Virginia assistant surgeon in 1874, promoted to be passed assistant surgeon in 1877, and was on duty in the James River in 1878, and on the European station and at the Washington navy yard in 1884. He was attending physician to the families of naval officers in New York until 1888. He was promoted to be surgeon in 1890. He was ordered to the battleship *Maine* in November, 1897, and was attached to and on board that vessel the night of her destruction in Havana harbor. After this he was on duty with the survivors of the ill-fated *Maine* at Havana until March, 1898, when he was ordered to Washington. During the Spanish war he was made surgeon of the *St. Paul*.

"Dr. Charles T. Hibbett, a graduate of the University of Virginia, is a Tennesseean by birth. He received a commission as assistant surgeon in the navy in January, 1875, and was promoted to be passed assistant surgeon in April, 1880, and to be surgeon in December, 1892. Although born in Tennessee, he is a Virginian by adoption and has many interests in and about Norfolk and Portsmouth.

"Dr. James D. Gatewood, now on the *Lancaster*, is a graduate (in medicine) of the University of Virginia, and is a native-born Virginian. Dr. Gatewood received his degree as M. D. in 1879, and was appointed assistant surgeon the following year. He has been of material assistance in prosecuting the departmental revision and perfection of the medical corps. During the late Spanish-American war he was attached to the monitor *Puritan*, and after hostilities ceased he was sent as special agent of the bureau to inaugurate the naval hospital in Havana.

"Dr. Henry B. Fitts, born in Petersburg, Virginia, in 1858, was graduated in medicine from the University of Virginia in 1880; he also enjoyed the opportunity offered him to take a post-graduate course at the University of Pennsylvania for the period of two years; he then entered the navy, in July, 1882. His first assignment was to Norfolk, whence he was sent to sea on the *Jamestown*, and his next duty was with the coast survey. He then served in the New York and Philadelphia hospitals, and from 1887 to 1890 he was stationed at Sitka. From this station he went to the Army and Navy Hospital at Hot Springs, Arkansas, where he served until 1894. Then he was ordered to the *Essex*, and in 1897 to the naval hospital at Portsmouth, New Hampshire. His father was a lieutenant in the Confederate army, and was killed while in camp near Norfolk.

"Dr. Joseph Alfred Guthrie, passed assistant surgeon, is a son of the late John Julius Guthrie, formerly a lieutenant in the United States navy and during the civil war a commander in the Confederate navy. After the civil war Commander Guthrie was appointed by General Grant a superintendent of life-saving stations (Atlantic coast). In this capacity it was that he lost his life in attempting to save the lives of those on board the ill-fated United States steamer *Huron*. Dr. Guthrie was appointed, in May, 1883, to the naval academy by a friend of his father (President Arthur). He resigned a year afterward and studied civil engineering in Philadelphia. He entered the University of Virginia, Scientific School, in 1887, graduated in chemistry, and then in all the branches of medicine, and received his degree of M. D. in June, 1890. He attended the Post-graduate clinical courses and Bellevue Hospital, in New York, up to December, 1891, when he received a commission as assistant surgeon, and served first at Port Royal, South Carolina. He is a member of the Association of Military Surgeons of the United States, of the New York Yacht Club, and of other organizations.

"Dr. Moulton K. Johnson, born December 4, 1869, in Cincinnati, was educated in the high schools and technical schools of that city. He entered the naval academy in June, 1889, resigned in 1893, and studied medicine at the University of Virginia. He received the degree of M. D. from that institution in June, 1895. He was commissioned as assistant surgeon in the navy in the following November, and ordered for duty at the naval laboratory, New York. From there he went to the *Franklin*, and next to the coast survey steamer *Bache*. He has been attached to the *New York* and the *Vicksburg* recently. In 1898 he was promoted to be passed assistant surgeon, and his present duty is at the New York naval hospital.

"The present assistant surgeon-general, Dr. J. C. Boyd, is a University of Virginia alumnus, though not a graduate of the medical school. He has rendered an excellent account of himself during our late war with Spain, carrying on the rush of departmental business to a satisfactory termination. He holds his position because of his peculiar adaptability and gift of extraordinary executive ability.

"In 1890 there graduated in medicine at the University of Virginia four naval academy graduates—viz.: Richard Jackson, M. R. Pigott, L. L. Young, and W. B. Moseley. Two of these afterward entered the navy as assistant surgeons, and have since done credit to the Virginia school. Dr. Jackson, who is a son-in-law of Admiral Sampson's, was taken back into the line for conspicuous and heroic conduct during the gale that destroyed our fleet at Samoa. He is now a lieutenant of the line, although holding a diploma as an M. D.

"Dr. Moseley's health failing, he was compelled to give up his first intention of entering the navy, and is now a very successful specialist in his native State of Texas.

"Dr. Young is a son of Judge Young, of Jackson, Mississippi, and his career in the medical corps of the navy has been very creditable, both to himself and to the University of Virginia.

"Dr. Pigott, who is now stationed at Annapolis, is an expert in physical training and is considered a very brilliant physician. Much more could be said of these last-named gentlemen, but from their modesty in furnishing data it has been impossible to obtain enough to do them justice in a sketch of this kind."

To Test the Value of a Stethoscope.—Dr. N. A. Powell (*Dominion Medical Monthly*, July) says that in regard to physical diagnosis, if you wish to estimate the value of a stethoscope, take a watch and place it on the table, then with the back of the hand on the watch place the bell of the stethoscope in the palm of the hand and listen to the tick of the watch in this way. In examining a patient for early tuberculosis the stethoscope should always be used whose accuracy is above suspicion.

Another "Christian Science" Victim's Death to be Investigated.—According to the *Medical News* for August 5th, Mrs. Edward Flanders died of "blood poisoning" at St. Luke's Hospital, Chicago, on July 29th, after having been attended by Mrs. Bratz, a "divine healer." The State board of health of Illinois has notified its attorney to investigate the case.

The Central College of Physicians and Surgeons, of Indianapolis.—In our issue for July 29th we remarked upon certain newspaper reports of disagreements that had led to the resignation of some members of the teaching corps. We learn from the president of the faculty, Dr. Joseph Eastman, that those who resigned were for the most part incumbents of unimportant or duplicate chairs, and that the institution has not suffered from their action.

English versus American Athletes.—It is of interest to note that in the recent athletic contest between the representatives of English and American universities, the Englishmen won those events which called for physical endurance, whereas the Americans were successful in the contests requiring special strength and skill, without prolonged muscular effort. In no case did the Americans win, or come very near winning, any of the long runs, whereas in short distances, the one-hundred-yard dash for example, a supreme effort in the last few yards brought the American representative in ahead of his English competitor. The hurdle race also, requiring much skill, combined with temporary effort, was easily won by an American. The result of the longer runs might have been different had the man upon whom the Americans depended not been somewhat out of condition, but the fact remains that the English athletes had an endurance which was entirely lacking in our men. Whether this resulted from different training or climatic conditions or some more subtle cause, it is quite impossible to say, and certainly the data are as yet too few upon which to base conclusions. It is, however, to be hoped that this meeting, with a result so creditable to both sides, may be repeated each year alternately on this and on the other side of the Atlantic, and that an opportunity may thus be given, extending over a considerable period, of comparing methods of training and determining whether or not racial peculiarities or climatic differences underlie the rather striking outcome which we have had occasion to note this year. Some years ago a team of amateur English athletes visited this country and were thoroughly beaten. On that occasion they encountered, in addition to their opponents, excessively hot weather, which no doubt was a factor in the result. It is generally recognized, moreover, that a visiting team is always at a disadvantage.—*Boston Medical and Surgical Journal*, July 27th.

Christian (?) Science (??).—The *New York Times* quotes the following verses from the *Chicago Living Church:*

Oh, "God is so good,"
If we sit down and brood
On the goodness and "Allness," within and without us,
We need have no fear,
Our crackers and beer
Will flow from the "Allness" and goodness about us.

Of course, "there's no evil"—
God's not so uncivil
To make us imperfect and send us to thunder.
"There's nothing but love"—
In the heavens above,
The pockets of men, and the hearts that beat under.

"There can be no trouble"—
The body's a bubble—
It's all a "mistaken belief" and a dreaming.
God made us to fool us,
'Till some one should school us
To see what we see to be only a seeming.

"We're nothing but spirit"—
We really don't hear it,
Or see it, or taste it, or smell it, or feel it.
"There is no sensation"—
Except the temptation
To think what we think, when we think we can't heal it.

'Tis quite a mistaken
Idea we have taken,
That there's but one method of race propagation.
A child now to bother
About who's his father
Shows stubborn contempt for the new revelation.

"There's nothing but mind"—
Though created so blind,
We're all of us nursing some little "delusion";
But friends by the score
(For a dollar or more),
Will kindly remove the distressing "illusion."

With best of intention,
The Lord failed to mention—
While healing the halt and the deaf and the blind—
The trick of his healing
Was simply revealing
A "mortal deception" of "immortal mind."

And that these signs and wonders
Arose from the blunders
The Father had made in creating mankind;
And, until he was ready
To send Mrs. Eddy,
The world must remain to his purpose blind.

Professor Sanarelli to come to America.—The *Boston Medical and Surgical Journal* for August 3d says it is reported that Professor Sanarelli will visit America to test the value of his yellow-fever serum in this country.

Original Communications.

LOCALIZED TUBERCULOSIS OF THE INTESTINE,

*WITH A REPORT OF SEVEN OPERATED CASES.**

By W. J. MAYO, M. D.,
SURGEON TO ST. MARY'S HOSPITAL, ROCHESTER, MINN.

Tuberculosis within the abdomen is of frequent occurrence, and clinical experience in abdominal surgery demonstrates that the disease as a primary infection is not uncommon, or, if not primary in all cases, the abdomen is, at least, the only locality involved in which it can be recognized.

The prevalence of tuberculosis of the bowel in children is shown by the statistics of Simms Woodhead. In a hundred and twenty-seven autopsies on children dying of tuberculosis the mesenteric glands were found to be involved in one hundred, and it is to be presumed that the intestinal was the primary lesion.

In the New York Pathological Society for November, 1898, Dr. R. G. Freeman reported a case of primary tuberculosis of the colon in a child and discussed the mooted point as to its frequency.

In adults the bowel infection is usually secondary. Five hundred and sixty-six out of one thousand autopsies held on the victims of tuberculosis in the Pathological Institute of Munich showed secondary involvement of the intestines, and in only one case was the disease primary. Hilton Fagge says that in twenty-five years at Guy's Hospital only one case of primary tuberculous ulcer of the intestine was found. He, however, notes some intestinal strictures which may have had such origin.

The frequency of primary tuberculosis of the intestine in children is believed by Osler to be due to milk infection; it has been shown by Ernst that the milk may be actively infected without disease of the udder. Adult foods, such as cooked meats, etc., are less dangerous as a primary source of disease.

The prevalence of pulmonary tuberculosis in the adult and the frequency with which sputum is swallowed accounts for the secondary nature of the intestinal deposits.

H. A. Tomlinson, superintendent of the St. Peter, Minnesota, State Hospital for the Insane, has had an exceptionally large experience in the pathological study of tuberculosis among the inmates, and, as the mentally deficient usually swallow the sputum, he has found secondary intestinal infection to be the rule.

Osler mentions the possibility of secondary bowel infection through extension from the peritonæum.

Dr. N. Senn, in a most exhaustive paper on Intestinal Tuberculosis published in the *Journal of the American Medical Association* in May and June, 1898, says: "That the disease may occur as a primary infection can no longer be doubted. The results of an enormous clinical experience and thousands of necropsies furnish a substantial verification of this fact."

It is hard to reconcile the divergent opinions of men of large experience as to the relative frequency of primary intestinal tuberculosis. With a view of ascertaining the relative proportion from the standpoint of the operating room, rather than the deadhouse, I have examined the records and printed reports of St. Mary's Hospital of our city for the past six years. I find the total number of operations classed as abdominal within this period to be one thousand and three, and of this number sixty-four have been for tuberculosis, divided as follows: Tuberculous peritonitis, thirty; encapsulated tuberculous collections of fluid forming an abdominal tumor, three; ovaries and tubes, eleven; appendix, seven; kidneys, seven; intestinal wall, six. The patients treated in this hospital are drawn almost entirely from an agricultural community.

The reports previous to 1893 contain but few cases in which the diagnosis was made, although I have reason to believe it was often met with but went unrecognized. This would give tuberculosis a place in abdominal surgery of about six and a half per cent. The six cases in which the intestinal wall was involved and in which the infection appeared to be primary would amount to six tenths of one per cent. of the total number. These few cases, with the addition of one case operated in at St. Mary's Hospital in 1891, form the basis of this paper.

Experiments have shown that the tubercle bacillus is not killed in the gastro-intestinal juices, and that it is able to penetrate the intact mucous membrane. Peyer's glands and the lymph follicles are the common seat of infection, but the process soon involves the submucous tissue and then ulcerates through the agency of a mixed infection. In primary tuberculosis the greater part of the involved tissue may slough, and by cicatrization a corresponding narrowing of the intestinal lumen take place.

The consequent interference with the progress of the intestinal contents may be the first symptoms of the disease. This form of obstruction in an acute stage led to operation in three of the reported cases.

In the causation of the symptoms the effects of secondary pyogenic infection is of the utmost importance. The peritonæum becomes thickened and boardlike over the ulcerated area, and to this point the neighboring coils of bowels may become attached, leading to kinking and partial obstruction, or form multiple intestinal fistulæ.

A complete ulceration through all the coats of the intestinal wall protected by adhesions may allow of a localized tuberculous pocket, giving the appearance of an abscess, as in Case V.

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* Read before the Minnesota Academy of Medicine, February 1, 1899.

Rokitansky long ago pointed out the tendency of intestinal tuberculosis to follow along the blood-vessels and produce a circular deposit, as carcinoma is wont to do.

The healing process when established in such ulcers leaves a circular stricture. In secondary tuberculosis there is but little tendency to cicatrization, and the extent of disease is usually larger.

Primary tuberculosis in children is less apt to ulcerate deeply, the rule being early involvement of the mesenteric glands, which in turn act as a distributing depot to the general system, either through the lymphatic channels or blood-vessels.

The experience of nearly all observers has been that in adults there is a distinct tendency for the primary disease to remain local, the prognosis, therefore, being far more favorable than in children. Senn points out the fact that in very many cases supposed to be primary there are other infected localities which may not be recognized.

The most common seat of primary tuberculous disease is in the ileo-cæcal coil. The sigmoid and the lower ileum are also often affected, although any part of the intestinal tract may be involved.

Senn describes two forms of disease: one fibrous, with markedly great hypertrophy, resembling carcinoma, and an ulcerative variety, more apt to cause stricture. The two phases of disease are often present in the same case.

According to Hofmeister, multiple strictures are found only in the ileum. The appendix is often the starting point of the infection in the cæcum.

The diagnosis of secondary tuberculous infection of the intestines is usually easy, but this can not be said of the primary variety. In only two out of the seven cases herein reported was the diagnosis made. In Case IV the appearance was that of cancer, although tuberculosis was thought of.

In a general way it may be said that the ages of the patients range between fifteen and forty. In my own cases the youngest was eighteen and the oldest thirty-seven.

A tuberculous family history was present in only two, and was not marked in either case. The general appearance in the cases with obstruction was good up to the time of the sudden bowel stoppage, and in none of the cases reported has there been the cachexia of a cancerous affection of the same duration.

In the three cases having the largest extent of ulceration there has been some evening rise in temperature.

In the majority of cases alternating constipation and diarrhœa have been observed, and in the strictured individuals serious symptoms of obstipation have appeared several times before the attack of obstruction rendered relief imperative. In only one case was diarrhœa marked, and in this patient the cæcum and ascending colon were extensively involved. Diarrhœa would argue in favor of larger extent of ulcerated surface, and is common in the secondary forms of the disease.

The constant symptoms in all cases have been colic and colicky pains, and in five out of the seven cases urinary irritation was an annoying feature.

Fixation of the uterus with seeming enlargement of the ovaries and tubes led to operation in two cases. In each instance a peculiar change in the apparent size and consistence of the lateral masses was manifest on different days, probably due to the amount of retention of bowel contents above the stricture, and perhaps, also, as Dr. H. A. Kelly has pointed out, to the changing amount of fluids in the coincident pelvic disease.

Rigidity of the abdominal muscles, preventing accurate palpation, was also present in these two cases, and in the experience of the writer this peculiarity with an undue sensitiveness has been common in tuberculosis of the ovaries and tubes.

A well-marked tumor in the cæcal region was present in three cases, and this enlargement was nodular and apparently contained gas.

Examination of the stools for tubercle bacilli should be practised, although the limited extent of disease does not lead to frequent success. Sawyer says that the mucous membrane just inside the sphincters is most likely to contain the germs.

Rectal discharges of pus and blood should lead to a careful examination of the rectum and sigmoid by Kelly's method. I have under observation at this time a patient with marked tuberculous ulceration of the sigmoid detected in this manner.

Strictures resulting from the healing of tuberculous ulcers must be distinguished from the congenital and traumatic varieties and from those following the reduction of inflamed hernias.

Only one case in which a stricture followed typhoid ulceration could be found by Treves. Syphilitic stricture, according to Senn, is always fibrous and never ulcerative. Of the various forms, the carcinomatous stricture will give the greatest difficulty in diagnosis, even when the parts are exposed. In both, enlarged glands are found. The tuberculous glands are hard and cheesy. The carcinomatous area will have dilated and tortuous blood-vessels underneath the peritonæum; it also shows no scars of cicatrization and is not so densely adherent in the early stages as the tuberculous variety. Maylard speaks of œdema and inflammation in the vicinity of the umbilicus as an indication of ulcerative tuberculosis, and Tillmanns remarks on the frequency with which chronic indurations of the abdominal wall, with slow formation of abscess, are followed by fistulas communicating with the bowel.

In Senn's monograph, previously referred to, will be found a differential diagnosis worthy of the most careful study.

The indications for treatment may be divided into two classes: First, for the tuberculous process itself, and, second, for the relief of mechanical interference with intestinal action, the result of cicatrization. The management of localized intestinal tuberculosis without obstruction is certainly surgical; but to what extent should the operation be carried?

Clinical experience has demonstrated that nearly all forms of primary tuberculosis in the abdomen may be cured by simple incision of the peritonæum, and many cases of tuberculous intestinal disease relieved in this way have been placed on record.

It is possible that the "malignant tumors" in the abdomen cured by laparotomy, recorded by Tait and others, may have been tuberculous.

Removal of the cæcum and ileo-cæcal coil or ascending colon has been practised with good results, and many cases are now recorded by Senn, Pilcher, Ochsner, Koerte, Sachs, and others. In most cases extensive regional glandular infection will be found. The appendix is frequently the starting point of disease, and has often been removed, leaving the tuberculous cæcum and caseating glands untouched, and yet apparent cure has resulted. Each case must be judged on its own merits.

Strictures following upon the healing process and causing mechanical obstruction of the bowels belong to the radical operations of necessity.

Intestinal resection or extirpation of the ileo-cæcal coil is most frequently demanded. Occasionally the extent of the involved area or the debilitated condition of the patient may render intestinal anastomosis above and below the obstruction the safer procedure. This is particularly the case in extensive disease of the ileo-cæcal coil, rendering ileo-colostomy the operation of choice. Senn notes in this connection that even a short length of remaining large bowel is sufficient to dry the stool, and this was our experience in Case IV, in which the patient was operated upon by Dr. C. H. Mayo; also in a second case of ileo-colostomy for the relief of ileo-vaginal anus, reported in the *Annals of Surgery* for November, 1897.

In other cases the adhesions of coils of bowel to the peritoneal plaque covering an intestinal ulcer may lead to angulation. In two of our cases this condition alone seemed to account for the obstruction. On separating these points of union we have noticed that the adhesions were thick and more vascular than in the ordinary inflammatory disease as encountered in the pelvis, and there were no planes of cleavage discoverable. There was also a structural change involving all the coats of the bowel at one limited point of contact. On separation, the affected parts had an eroded granular appearance, looking like a lupus of the skin after removing an adherent scab.

All these places should be either cleanly excised or turned into the bowel and carefully sutured in this position, as a point in the centre usually communicates with the intestinal lumen.

If the suture is secure and there is no need of gauze protection against possible leakage, silk should be used for that purpose, but if it seems desirable to quarantine the suspicious area, catgut should be employed as a suture material. In our experience the tract established by the gauze is almost certain to become infected with pyogenic organisms, and silk at the bottom of a tuberculous sinus means chronic suppuration, and a fistula having a communication with the bowel will ultimately form.

Drainage of primary wound secretion in the abdomen is seldom necessary in chronic disease, and usually does not take place even if desired, but occasionally a suspicious point should be isolated and connected with the surface by the formation of adhesions around a piece of gauze, to protect against infection or leakage.

Such treatment leaves much to be desired. The post-operative suppuration in Cases IV and V was of a peculiar oily character, very fœtid, with, eventually, a minute fæcal fistula; both of these patients had a considerable elevation of temperature while the discharge lasted.

If catgut has been used, the fistula will heal spontaneously in from three to twelve weeks, according to its extent; at least, this has been our experience.

In Case III there was no protection. While no post-mortem was secured, I believe there was a leakage at the suture line.

Intractable tuberculous ulceration of the sigmoid, either with or without stricture, has been successfully treated by a temporary or permanent inguinal colostomy.

In looking back over our experience in this class of cases we note their wonderful ability to withstand operative interference. The chronic nature of the disease seems to furnish a partial immunity to injury and operations can be fearlessly undertaken which would be unjustifiable in acute infections or cancer. The operations performed in several of these cases were very incomplete and unsatisfactory, yet apparent cure resulted.

Case I. *Localized Tuberculosis of Ileum; Separation of Adherent Intestinal Coils; Secondary Operation for Fæcal Fistula; Recovery.*—Miss M. K., single, aged twenty-three years; American; Westfield, Minnesota. Admitted to St. Mary's Hospital, July 8, 1891, with a history of abdominal swelling and pain of a colicky character, which had begun rather suddenly a year previous. Constipation alternating with diarrhœa and occasional attacks of vomiting were prominent symptoms. Menstruation prolonged and excessive, bladder irritable. There had been a progressive loss of weight and strength. Family history negative. Examination of heart, lungs, and urine negative; temperature, 100° F.; pulse, 100; abdomen tympanitic; muscles rigid and in places board-like; uterus fixed by masses of a rather peculiar character in the small pelvis. This local condition on several examinations on different days never appeared twice just alike.

A diagnosis of pelvic peritonitis, probably of tubal origin, was made, and on July 12th the abdomen was opened in the middle line; the peritonæum was very thick and the omentum generally adherent; there was no fluid, and the intestines in the small pelvis were more or less covered with adhesions, and had formed the mass felt on vaginal examination.

In the vicinity of the umbilicus the small bowels were matted together, forming a partial obstruction. On separating these adhesions a coil of ileum was found to have a large, thick cicatrix on its free surface, not of itself obstructive, but to which the neighboring intestinal coils had become adherent. The adjacent peritonæum was studded with tubercles. A small drain was inserted and the abdomen closed.

On the sixth day the abdominal wound opened and began discharging the contents of the upper small bowel, the escape of food taking place within a few minutes of its ingestion. The prostration became extreme. Three weeks after the first operation a finger introduced into the fistula showed a sharp spur in the bowel at the angle of adhesion; this spur was caught with a pair of forceps, one jaw in the afferent and one in the efferent portion of the bowel, and clamped (method of Dupuytren). Five days later the forceps cut its way through, and after a trying time during the next three months the wound healed. The patient completely recovered, and now, seven years and a half later, is in excellent health.

Case II. *Tuberculous Ulceration of Ileum causing Obstruction; Intestinal Resection; Recovery.*—C. K., a man, aged eighteen years; German; Janesville, Minnesota. Admitted to St. Mary's Hospital October 8, 1896. Five months previously he had been suddenly seized with vomiting and pain in the hypogastrium. The abdomen became bloated and bowel movements could not be secured for a number of days. There had been some urinary distress. After three weeks he improved and was able to be about, but the colic and distress were almost constant; movements from the bowels were exceedingly hard to obtain, and gave only temporary relief. There was a gradual loss of seventy pounds in weight; nausea was constant, and vomiting of daily occurrence. Family history good.

Examination.—Emaciation extreme; pulse, 130; temperature slightly subnormal. Urine contained a tenth of one per cent. of albumin, and indican in abundance. Heart and lungs normal. Abdomen greatly distended, and the dilated coils of intestines could be plainly seen during peristalsis. No tumor could be discovered.

Diagnosis, chronic obstruction of the small bowel. Operation, October 9th. On opening the abdomen, coils of the greatly distended small bowel protruded and were allowed to remain outside under hot towels in sufficient quantity to expose the seat of trouble, which consisted of an adherent mass of ileum near the ileo-cæcal junction. In attempting to separate the adhesion and relieve the obstruction the distended bowel was opened and at once emptied and sutured. A large ulcerated and partially cicatrized surface was finally disclosed in the ileum, and this communicated with two coils of bowel by fistulous openings. In attempting to liberate this portion of bowel it was torn completely through.

Four inches of the ileum, including the diseased area, were excised and an end-to-end suture anastomosis effected. This was rendered very laborious on account of the inability to bring the parts to the surface, and the great disparity in size and thickness of the muscular coats of the two parts of the bowel united, the proximal portion being greatly dilated and much thickened.

The fistulous openings in the adherent coils were excised and the defects closed by purse-string sutures. A gauze drain was inserted. On removing the drain on the fifth day a small fæcal fistula developed, which spontaneously closed in fourteen days.

Discharged November 14th in good condition. Now, two years and a half after the operation, he is in perfect health, and has gained a hundred pounds in weight. The pathological specimen showed the characteristics of tuberculous ulceration.

Case III. *Localized Tuberculosis of Sigmoid and Tubo-ovarian Disease; Secondary Involvement of Ileum and Bladder; Operation; Death.*—Mrs. F. H., aged thirty-six years; American; married; no children; Kasota, Minnesota. Admitted to St. Mary's Hospital April 29, 1897, with a history of pelvic pain extending over a period of six years. Bowels obstinately constipated. Bladder irritable. Menstruation excessive and lasting from ten to fourteen days. Digestion poor, colics frequent. Family history of tuberculosis and cancer.

Physical Examination.—Patient fairly well nourished. Heart and lungs normal. Urine contains a few pus corpuscles. Pulse, 96; temperature, 98.4° F. Abdominal muscles rigid. Uterus retroverted and adherent. An indefinite painful swelling can be plainly felt on each side of the uterus.

Diagnosis, inflammatory disease of tubes and ovaries.

Operation on May 1, 1897. A coil of lower ileum and the bladder adherent to the sigmoid. There were no planes of cleavage, such as are usually found in inflammatory disease. The tissues were friable and looked granular when separated. Both the bladder and ileum were opened during separation and the injuries at once were carefully sutured. An irregular ulceration of sigmoid, partially cicatrized, was drawn to the surface, turned in, and the peritonæum sutured over. The ovaries and tubes were bound down by dense adhesions, and both tubes contained straw-colored fluid. The appendages were removed and the uterus suspended anteriorly. The abdomen was closed without drainage. Death occurred on the fifth day from septic peritonitis. There was no post-mortem.

Case IV. *Tuberculosis of Cœcum and Appendix; Operation; Improvement; Readmitted Seven Months Later with Obstruction of the Bowels; Ileo-colostomy; Recovery.*—Mrs. H. O., aged thirty-seven years; American; New Richland, Minnesota. Married and the mother of nine children, the youngest of whom is three years old. She has not been well since the birth of the last child, has been weak and tired, and hardly able to do her work.

For the past six months has had a constant pain in the right side and has suffered from cramps in the bowels; constipation alternating with diarrhœa and occasional discharge of a slimy character has been observed. There has been some irritation of the bladder, quite annoying at times. Menstruation normal. Patient also states that there is an enlargement in the right side which, she thinks, has been present for three years, and is increasing in size. Family history good.

Physical Examination.—The patient is of an anæmic appearance. Temperature, 99.5° F.; pulse, 100. No evidence of disease in the lungs. Heart normal. Urine contains pus corpuscles. An indefinite thickening in the region of the right broad ligament can be felt through the vagina and rectum. In the right side of the abdomen is a well-marked enlargement occupying the position of the cæcum and extending upward to the lower free ribs. It is irregular in outline and appears to contain gas. Diagnosis, probable carcinoma of the cæcum.

Operation on April 28th. A free incision was made directly over the enlargement, which was found to be the cæcum. It was adherent and the surface was marked with boardlike scars. The appendix was thoroughly involved and lay in the pocket under the ileo-cæcal junction. The right ovary and tube were also involved in the caseating mass. Lymphatic glands in the neighborhood were enlarged and cheesy. A portion of the cæcum was excised with the appendix and right ovary and tube. A retrocæcal tuberculous pocket was curetted and iodoformized, and an iodoform gauze drain was inserted. On its removal a small fæcal fistula appeared. For six weeks an oily offensive discharge continued, and a continuous temperature elevation was noted. Patient was discharged with a cicatrized wound June 8th.

In September the patient was reexamined and appeared to be in excellent health, having gained thirty-three pounds in weight, but she complained of some stomach disturbance, with attacks of vomiting and obstinate constipation, which have appeared within two weeks.

November 7th.—The patient was readmitted to the hospital suffering from obstruction of the bowels, which had lasted nearly a week; vomiting was frequent and the abdomen was markedly tympanitic. It appeared that the symptoms of obstruction had been steadily increasing since the examination in September, and were relieved with more and more difficulty until the trouble had culminated in the present attack. It was also noted that the bladder had become involved, and shortly before an abscess had opened into this viscus and still discharged by this route, to her great distress.

Operation by Dr. C. H. Mayo. The ileo-cæcal coil was involved in a tuberculous process producing the obstruction. An indurated area connected this with the bladder and this extensive disease was not disturbed. The ileum was divided eight inches above the ileo-cæcal valve at a point well above the disease, and the distal portion was emptied and the cut end turned in and sutured. The proximal end of the ileum was anastomosed with the transverse colon by a Murphy button.

The contents of the enormously distended small bowel were milked through the button into the colon. The abdomen was closed without drainage. The bowels acted freely within a few hours and the patient rapidly convalesced. The discharge of pus and tuberculous *débris* through the bladder immediately lessened, and in four weeks entirely disappeared. The button came away in twelve days. Patient was discharged December 15th in good condition. The ultimate result would seem to be uncertain.

CASE V. *Tuberculosis of Cæcum and Ascending Colon; Formation of Tuberculous Abscess; Operation; Improvement.*—Mrs. F. A. G., aged thirty-seven years; American; Le Roy, Minnesota. Admitted to St. Mary's Hospital September 27, 1898. Has been married two years, and is the mother of one child, two months old. She has been unable to nurse her child. Menses have not reappeared as yet. She states that for two or three years she has been annoyed by a pain in her right side, which was aggravated by the pregnancy.

After confinement, her physician, Dr. McMillet, of Le Roy, discovered a tumor in the right side of the abdomen, which has been exceedingly tender. Bowels irregular, of late a tendency to diarrhœa. Family history of tuberculosis.

Physical Examination.—A spare woman of anæmic appearance. Heart and lungs normal. Urine negative. Temperature, 101° F.; pulse, 110; generative organs normal. There is an oblong mass in the right side occupying the usual situation of the cæcum and ascending colon, which feels hard and nodular; it evidently contains gas. In the loin there is a tendency to induration which may be due to a deep-seated abscess. Leucocytosis not present. Diagnosis, tuberculosis of cæcum with secondary abscess.

Operation on October 1, 1898. A lateral incision was made with its centre over the inflamed area. On opening the abdomen, the walls of the cæcum and ascending colon were found to be enormously thickened, and in places, ulcerated patches, well roofed in by thick plastic deposit, could be made out.

The deep glands behind were caseated. The inflammatory deposit was a typical tuberculous abscess, adherent to the abdominal wall and communicating with the colon, into which it evidently discharged. The colon was opened and extensive tuberculous ulceration could be seen. So far as could be demonstrated, the disease was confined to this region. The abscess cavity was iodoformized and packed with gauze, and the opening in the bowel repaired and covered with an omental graft. A slight fæcal fistula followed the removal of the gauze drain on the fourth day, and for six weeks a fœtid oily discharge continued.

During this time the patient constantly had high temperature. Discharged from the hospital November 8th, greatly improved in health. Now, four months after the operation, the mass is very much less prominent, and there is a gain of thirty pounds in weight, and a corresponding improvement in general health can be noted.

CASE VI. *Tuberculosis of Sigmoid, causing Stricture; Operation for Obstruction of the Bowels; Recovery.*—Mrs. J. A. W., aged thirty-four years; Lime Springs, Iowa. Admitted to St. Mary's Hospital June 27, 1898. Patient has been married two years; no children. She has had three well-marked attacks of appendicitis, and at this time is just recovering from the fourth attack. Her physician, Dr. J. W. Reed, of Lime Springs, states that the character of the trouble appears to have changed, the earlier attacks being typical, while the illness from which she is now convalescing has been in the nature of an obstruction of the bowels. Menses regular, bowels generally constipated. Family history good.

Physical Examination. — Patient of delicate physique. Temperature and pulse normal. No evidences of disease of lungs, heart, kidney, or generative organs. Palpation of the appendix elicited some complaints of pain.

A diagnosis of relapsing appendicitis was made on the history. On June 26th the diseased organ was removed through a short lateral incision. The appendix was adherent and contained several strictures. There were no signs of recent inflammation. Discharged July 15th.

Within one week of her arrival home she experienced another attack precisely like the last one. The obstruction was never fully relieved from that time. The vomiting, intense pain, and abdominal distention yielded only after great effort to act upon the bowels, and the relief afforded was very temporary. It was noted in this later history that only small enemata could be retained, although nothing could be felt by digital examination through the rectum.

Patient readmitted October 15th in bad condition. Pulse rapid and feeble. Abdomen greatly distended with gas, peristalsis being markedly visible. This was especially noticeable in the left iliac region. Emaciation extreme. No action of the bowels had taken place for two weeks; once flatus had escaped. The vomiting was almost constant, and the pain could be checked only by the subcutaneous exhibition of morphine.

Operation was performed as soon as the patient could be prepared. A median incision revealed a tangled mass of bowel in the pelvis. This proved to be two coils of ileum adherent to a point on the sigmoid within two inches of the beginning of the rectum. The separation was difficult and resulted in opening each loop of the small bowel. The adhesions were not general, but rather a dense union over a small area, being friable and granular. The surfaces containing the defects in the intestinal wall were turned into the lumen of the bowel by sutures. The disease in the sigmoid seemed to completely surround the gut, and it could not be brought to the surface. An assistant placed two fingers in the rectum and I was able to depress the stricture sufficiently to invaginate it into the rectum, while my assistant forced his fingers through and dilated it thoroughly. In doing this, the friable tissues ruptured. This was repaired as well as time would allow by transverse suturing, which enlarged the opening, and the result was far from being satisfactory. The pelvic peritonæum was studded with tubercles.

A large iodoform-gauze tampon was placed to protect against the expected leakage. The sigmoid was brought to the surface and fastened to the upper end of the wound above the drainage, and marked with black silk guides, and finally the ileum proximal to the sutured parts was fastened along the side of the sigmoid to the peritoneal edge of the wound, and also marked with silk guides, to be used should it be necessary later to open the bowel to relieve the obstruction.

Patient in collapse, from which she but slowly recovered. The obstruction was not relieved, and the condition appeared to be hopeless. In forty-eight hours the sigmoid was opened, but without relief; twelve hours later, although the patient was barely alive, the small bowel was opened and some gas and liquid contents began to escape.

From this time on the discharge of small-bowel contents became profuse, and after a prolonged struggle the patient rallied. The fistulous openings healed spontaneously. The stricture below can now be reached by the fingers in the rectum and is stretched digitally twice a week. The patient is gaining rapidly in weight and strength. Discharged January 8, 1899.

Case VII. *Tuberculosis of the Cæcum and Appendix; Appendectomy; Improvement.*—Miss A. E. B., German, aged eighteen years; Elma, Iowa. Admitted to St. Mary's Hospital November 28, 1898. The following history was obtained: Attacks of abdominal pain began about eight months ago. These spells have grown more severe and are accompanied by diarrhœa. From the first the looseness of the bowels has been marked, and the discharges are slimy and offensive in character. There has been some urinary irritation at times. Menses stopped five months ago. The weakness has been progressive and she has lost thirty-five pounds in weight. There has been a more or less constant soreness in the right side. Family history good.

Examination.—A slender, anæmic girl, with a pulse of 116 and temperature 101° F. Lungs, heart, kidneys, and generative organs show no evidences of disease. Abdomen tympanitic, and considerable gurgling can be developed in the colon. The region of the cæcum is boardlike and the lower right rectus muscle is fixed.

An indefinite enlargement at this point can be mapped out, which contains air and fluid. Examination of stools for bacilli of tuberculosis negative. Diagnosis, tuberculosis of cæcum and ascending colon.

Operation on November 30th. Cæcum adherent and greatly thickened; on releasing the adhesions, white, boardlike scars can be seen.

The appendix was of large size and cheesy, breaking off close to the cæcum while enucleating it. The deep glands were of considerable size and extended in a chain upward as far as could be reached. A gland was removed and found caseating. The omentum was converted into a ropelike mass and was adherent to the diseased area. The stump of the appendix was cut out of the cæcum, and the defect closed by suture.

The parts were iodoformized and the incision was closed without drainage. The diarrhœa was checked, and has not yet returned. The patient has gained in weight and strength, but the ultimate result is in doubt. Discharged December 29, 1898.

HOW FAR IS RETROVERSION OF THE UTERUS RESPONSIBLE FOR SOME OF THE FUNCTIONAL NEUROSES?

By MIRIAM GARDNER, M. D.,
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I wish to call attention to this subject, which has been of especial interest to me during the past few months in my practice, as I have watched the neurasthenic and hysterical patients who have come under my care with retroversion of the uterus.

I speak of this form of displacement as it is the one I have always found, if any, in these patients, and I shall confine myself to that class where there is simply retroversion, uncomplicated by adhesions, congestion, or inflammation.

To what extent, if any, is such a displacement the cause of a patient's nervous unbalance? From the histories given, I have decided that in each case the loss of control over the production of nerve power and exhaustion of nerve centres have not been due to the displacement of the uterus, but to other causes quite independent of this pelvic disorder. In several of these cases the anxious parent has brought her daughter for an examination, feeling that a thorough investigation of the rest of her body had not revealed sufficient trouble to account for the nervous symptoms.

Upon examining some I have found no retroversion; in others, suffering from dysmenorrhœa and pain in the lower part of the back, there has been a retroverted uterus, and upon correcting the displacement the patient has improved in health; but her habit of life and character were fixed, and she only reached out to find other reasons for nervous feelings, meanwhile allowing her mind to dwell upon the pelvic disturbance from which she was relieved.

In other cases, where no symptoms given pointed to retroversion, the uterus was badly retroverted. One greatly overindulged patient of nervous temperament, the mother of six children, was always usually well until four years ago, when her only daughter died suddenly, and the shock was too great a strain upon her nervous system, and since that time she has been extremely hysterical.

She had no symptoms which would point to pelvic trouble, but, upon examination, I found the uterus retroverted, probably caused in this case by constipation, and lying almost constantly upon her back. If retroversion is the cause of these nervous disorders, why do some extremely nervous patients have retroversion, and others, free from nervous symptoms, have the displacement?

Those who understand the anatomy of the pelvic organs know they are normally located securely enough not to be easily shaken out of position in any person in comfortable health, that it would take a severe jar or fall to get the uterus greatly out of place, especially backward, and that constipation, from which most nervous patients suffer, is one of the chief causes of retroversion, the constant backward pressure upon the uterus causing stretching of the round ligaments; thus the organ is changed from its normal position and the signs of muscular relaxation are present, as well as relaxation of the tissues of all of the internal viscera.

Upon closely questioning I have found that the fond parents, in their mistaken kindness, are unconsciously largely responsible for the nervous conditions. When children the patients were never taught to know the meaning of cheerful, prompt obedience; selfishness was unconsciously cultivated, and grew rapidly with the years; the health was not properly looked after, unsuitable food was allowed and taken at irregular hours, no systematic exercise was taken daily in the open air, and there were no regular hours for sleep. As the years went on they were allowed to read or study into the late hours of the night, when the body and mind demanded rest.

As young ladies, with many, snug corsets and high-heeled slippers were indulged in daily, and, as they were allowed to dance into the early morning hours, because it was "*the thing*" to do, the nervous system became gradually unbalanced, and with torpid liver, constipation, loss of appetite and sleep, and unnecessary worry under such high pressure and improper living, they were physically in a condition where any extra nervous strain developed hysterical symptoms or nervous prostration, and they were thus unfitted to be a blessing to themselves or others, for they ruled, not only the parents, but the entire household, all yielding to the patient's hysterical whims, rather than go through the exhausting strain of a nerve storm.

Parents should realize the great importance of teaching their children to faithfully look after their general health, and thus avoid the list of innumerable ills that follow one after another when the body is not properly cared for, thus causing functional neuroses.

With regular daily outdoor exercise, sufficient hours for rest, systematically daily emptying the bowels, eating wholesome food, drinking plenty of water, and wearing clothing that will not interfere with the circulation, the entire body will be healthfully nourished, and each person thus physically fitted to perform the duties of life. If this class of patients, when children, had been taught by the exemplary living of parents, as well as by precept, to meet their little trials and disappointments bravely, then as the years went on and more trying experiences appeared (which are sure to come sooner or later into every life) they would be prepared mentally as well as physically, with perfect self-control, to meet whatever came, instead of being left in a neurasthenic or hysterical condition, not being able to cheerfully accept the existing circumstances over which they or their parents often have no control.

While in some cases retroversion doubtless aggravates neuroses already existing, I do not think it is the primary cause of the nervous unbalance found in so many ungoverned, selfish, self-willed hysterical women, who are unfitted to be a blessing to the world, but often are unwisely selected as wives and mothers.

It must be borne in mind that all of the abdominal tissues, pelvic floor, abdominal walls, and even the mesentery attachments of the internal viscera, are alike weakened in these patients, and one can not be strengthened without all being naturally physically benefited.

Thus, whatever new symptoms may arise in these cases may be as justly referred to the relaxation and displacement of other internal viscera as to a retroverted uterus, and stomach difficulties and a movable kidney are often expressions of neurasthenia.

In the treatment of these cases I have realized how much faster these patients gain in health away from their homes under the systematic treatment for building up the general health, as given in a sanitarium. Here they realize the necessity of carrying out the doctor's orders, and with appropriate baths and general treatment, followed by rest, the system is again restored to a more normal condition, and pelvic troubles that at home seemed of the greatest importance they have learned were easily relieved. The local treatment may be varied according to the condition found. In many of these cases faradaic electricity helps greatly in toning up the pelvic tissues. In the treatment every other day, one electrode is placed back of the uterus and the other over the abdomen for ten minutes, increasing the current strength as the patient can bear it. When the backward displacement is slight, it is better to give no local treatment, but have the patient morning and evening take the knee-chest position from five to ten minutes and avoid lying on her back. Deep breathing exercises and light gymnastics later on, when stronger, greatly aid in strengthening and giving proper tone to the abdominal and pelvic tissues. Following these out faithfully, and aided greatly by the general treatment, the uterus has in most cases in a few weeks assumed and retained its normal position.

In others, where the mind had become centred on the displacement as the cause of poor health, it has been found better to use the medicated cotton-wool tampon as a support for a few times, gradually making it smaller with each treatment until the patient can go without it without the slightest discomfort, and during that time becoming fully convinced that the displacement was corrected; then no pelvic support was needed.

In many cases too much stress is placed by the home physician upon the pelvic displacement, and too little attention given to building up the general health. With this reversed, the patient in most cases improves rapidly.

While in marked cases of retroversion local treatment is needed for weeks, in slight displacements it should be avoided as far as is justifiable. When improving the general health, taking faithfully especial exercise with reference to the pelvic displacement, and following out the systematic line of hygienic treatment, the conditions will soon be corrected and the patient once more practically well.

While in this paper I have dwelt largely upon the hysterical type of neuroses, neurasthenia caused by nervous fatigue and manifested by eye strain, disturbances of circulation, digestion, and secretion bear an equally important place in the consideration of this subject.

Dr. F. X. Dercum, in his able paper upon The Relation of the Great Neuroses to Pelvic Disease, published in *The American Gynæcological and Obstetrical Journal* of August, 1898, makes the following statements:

"There is no *necessary* relation between neurasthenia and pelvic disease.

"There is no relation between pelvic disease and hysteria, even where the two affections coexist in the same case."

The Treatment of Yellow Fever.—According to the Brazil correspondent of the *Medical Record* for August 5th, Dr. George Butler, an American medical missionary, practising in the State of Pernambuco, has reported a large number of cases treated with small repeated doses of castor oil and turpentine, and says that he has not lost a case when the treatment was begun before the action of the kidneys became involved, and when yellow fever was not complicated by some other disease. His treatment is as follows: Three drops of turpentine in a teaspoonful of castor oil every hour for twelve hours, after which only once in two hours until the fever ceases.

A REPORT OF FOUR CASES OF EPIDEMIC CEREBRO-SPINAL MENINGITIS, WITH SPECIAL REFERENCE TO THE VALUE OF LUMBAR PUNCTURE AS A MEANS OF DIAGNOSIS.*

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The subject of epidemic cerebro-spinal meningitis has been brought to the notice of this society so recently that I would hardly feel justified in calling your attention to it this evening were it not for the fact that the disease is not only on the increase among us, but in parts of this State and in many other States has assumed the proportions of a grave epidemic. The public-health reports show that during the week ending April 22, 1899, two cases and six deaths of cerebro-spinal meningitis were reported in Baltimore. This by no means shows the true condition of affairs, as until recently this affection was not included in the list of diseases to be reported to the health department. In the city of Washington there have been sixty-four deaths from epidemic meningitis since January, 1899. A perusal of the health reports of other cities shows a similar increase of mortality in this disease. The mortality in various epidemics ranges from twenty to eighty per cent.

Again, while the ætiology of this disease has received considerable study in this country as well as abroad, there is still some discussion as to the characteristics of the specific organism. I need merely call your attention to the differences in the description of Jaeger (1) and Heubner (2) on the one hand, and Weichselbaum (3) and Councilman (4) on the other. Pfaundler (5), in a recent article, has pointed out that the specific causes of epidemic meningitis are diplococci of different though closely related varieties, which he has designated as groups A and B, whose characteristics are as follows:

Group A.	Group B.
1. Diplococci, broad ends side to side.	1. Same.
2. Occasionally tetrads, seldom in chains.	2. Forms chains.
3. Decolorized by Gram.	3. Not decolorized by Gram.
4. Little or no growth on agar.	4. Luxuriant growth on agar.
5. No growth on bouillon, milk, or potato.	5. Growth on bouillon, milk, and potato.
6. Best growth on serum.	6. Poor growth on serum.

While Leichtenstern (6) first called attention to a diplococcus intracellularis in cases of meningitis, it was Weichselbaum who first gave a detailed description of the organism known as the "*Diplococcus intracellularis meningitidis.*" He found the organism present in the meninges of the brain and cord of six cases. He isolated the organism and found it to be pathogenic to mice and guinea-pigs, but as he could not regain the organism from the affected membranes, he hesitated to announce positively that the organism was specific for epidemic meningitis.

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* Read before the Clinical Society of Maryland, May, 1899.

The next important addition to our knowledge on this subject was made by Jaeger, who studied an epidemic of meningitis in Stuttgart in 1895. He found the organism in a series of autopsies and distinguished it absolutely from the pneumococcus, the only coccus with which it might be confounded. Heubner was able to corroborate on the living the results obtained by Jaeger at autopsy; by means of lumbar puncture he obtained the spinal fluid from six cases of meningitis. The microscopical examination showed the diplococci within the pus cells, and the inoculation of media gave the organisms in pure culture. The pathogenic powers of the organism were not marked, the only susceptible animal being a goat, which received a typical meningitis when the fluid taken directly from the spinal canal of an infant was injected into the subdural cavity of the animal. His description of the organism corresponds closely with that given by Jaeger.

Councilman has recently reported a hundred and eleven cases of epidemic cerebro-spinal meningitis occurring in and about Boston. In thirty-five of these cases on which post-mortem examinations were made, diplococci were found in cultures or on microscopic examination of exudates in all but four cases. In most of the cases they were found in cultures on microscopical examinations of exudates, and in sections. Lumbar puncture was performed in fifty-five cases; diplococci were found either on microscopical examination of the spinal fluid or in cultures in thirty-eight cases. In a certain number of cases cultures failed to give the organisms, although they were abundantly present both on cover-slip examination and in sections. As showing the difficulty in growing the organisms in cultures made from the meninges at the post-mortem examinations, ten cultures were made from one case from the exudation on the brain and six from the cord, cover-slip examinations showing abundant organisms in the cells. Only two of the cultures from the brain and one from the cord showed a growth, a single colony being found on each tube. In ten cultures from the brain and nine from the cord in another case, but two tubes, one from the brain and one from the cord, showed a growth.

The following cases of epidemic meningitis which have come under my observation, the spinal fluids of which were studied bacteriologically, may prove of interest:

Case I.—M. C., aged two years and six months, colored, was brought to the dispensary of the University Hospital on April 9, 1899. From the mother the following history was obtained: Family history negative. Child was normally born and fed on the breast up to the tenth month. Began teething at seven months and walking at fifteen months. Had measles when one year old; otherwise none of the diseases of childhood.

About two weeks ago (March 25th) the child fell and struck its head against a chair; was slightly stunned, but soon recovered its normal condition. Three days later (March 28th) the child was taken suddenly with vomiting, headache, epigastric pains, and fever, and later on the same day with a severe convulsion; neither the vomiting nor the convulsion was again repeated. The child's condition became progressively worse until seen to-day, when the following note was made:

Child is rather emaciated and in a somnolent condition; has taken little or no nourishment for the past four days. There is no bruise about the head. The head is markedly retracted; the muscles of the neck feel tense and hard; the entire body is elevated by any attempt to bring the head forward. The eyes are fixed and dull; no strabismus; no fundal changes except a slight anæmia. A watch swung before the child's eyes seems to be unobserved, and the jingling of keys at its ears is unnoticed. Firm pressure in the cervical region causes it to cry as if in pain. The arms are normal, but the lower extremities are somewhat rigid. There is a slight herpes about the lips; no eruption observed on the remainder of the body. Abdomen is sunken; liver and spleen normal; over both lungs areas of dullness with subcrepitant râles. Heart sound clear but feeble. Pulse rapid, slightly irregular. Temperature, 101° F. Bowels constipated. Urine normal. Examination of blood shows a leucocytosis.

Clinical Diagnosis. — Cerebro-spinal meningitis; broncho-pneumonia.

April 10th. — Condition unaltered; if anything, worse. A lumbar puncture was now made and about fifty cubic centimetres of a cloudy fluid were withdrawn. The fluid flowed very rapidly at first, and then drop by drop, the whole quantity being obtained in about ten minutes. Immediately following the operation the child showed symptoms of improvement; the neck muscles were less rigid, and it was more easily aroused.

11th.—The mother states that yesterday afternoon, about 5 P. M. (five hours after puncture), the child called for water, the first time within a week. Patient is markedly better. Head can be brought forward; patient sits up and appears to notice the surroundings. Temperature, 100° F.

12th to 15th. — Continues to improve. Lungs clearer.

27th.—Child has completely recovered.

For a copy of the clinical history of this case I am indebted to Dr. Mary E. Osmond.

Case II.—S. H., aged eight years, colored. Family history good. No injury. Child had been in usual health, and attended school on December 22, 1898. During the night was taken ill with vomiting, epistaxis, and severe pains in the head. On the evening of December 23d the patient had a severe chill, which lasted for an hour; this was followed by convulsion, fever, and delirium. At this time it was observed that the body became rigid, the head being drawn backward. On December 29th there was another spasm; from this time to January 9, 1899, when the case was first seen, it was said that the body had been stiff; there was constant pain in the head, neck, and back.

On January 9th examination showed the body in a state of opisthotonus, the head being drawn back between the shoulder blades, the muscles of the neck and back tense and hard; legs drawn backward, but could be slightly moved; the arms unaffected. Marked tenderness along the spine. No herpes or rash was noted. Abdomen distended; no splenic enlargement. Bowels confined; enuresis. Temperature, 98° F.; pulse, 102. Blood tested for typhoid reaction; negative. Marked leucocytosis. On January 12th a lumbar puncture was made by Dr. Stokes. His report is as follows: Withdrawn by a sterile needle a few drops of cloudy fluid, which were put into a tube of glycerin-agar, and in twenty-four hours showed a number of fine pin-point colonies, which consisted of diplococci, staining with aniline dyes, decolorizing by Gram. Bacteriological diagnosis: "*Diplococcus intracellularis meningitidis.*"

January 11th to 13th.—Condition unaltered.

16th.—Severe pain in right ear.

22d.—Patient was able to take a small amount of liquid nourishment; a slight movement of the head observed. The improvement was gradual from this time. Repeated urinary examinations with negative result.

April 21, 1899.—The boy has entirely recovered, and has been attending school for the past two weeks.

Case III.—For the opportunity of seeing this and the following case I am indebted to Dr. J. T. McCarthy.

Blanche T., colored, aged four years. Family history negative. Child had pneumonia at ten months, otherwise none of the diseases of childhood. Patient was taken suddenly, while at play, with pains in the legs and back, followed the next day by headache, vomiting, and high fever. Child was seen one week later, when its condition was as follows: Marked opisthotonus, muscles of neck, spine, and lower extremities rigid; marked hyperæsthesia along the spine; convergent strabismus, pupils irregular and dilated, no reaction to light; child comatose, and with difficulty aroused. No herpes, but an eruption of fine purpuric spots covered the entire body. Ankle joints swollen and painful. Bowels constipated. Pulse rapid and irregular. Temperature normal. A lumbar puncture was made and about ten cubic centimetres of a cloudy fluid were obtained. The bacteriological examination of the fluid will be mentioned along with the other cases.

One week after puncture the child's condition was much improved; the mother said the improvement was noticeable the day after the puncture. When I saw the child yesterday she was in perfect health and playing about the house.

Case IV.—Joseph A., white, aged five years, I saw for the first time yesterday (May 3, 1899), and obtained the following history: Child has been sick and under the care of his physician for the past seven weeks. Patient was taken with headache and pains in the limbs on March 13, 1899, followed the next day by severe vomiting and convulsions. He has been confined to bed since this time. At present patient is in bed, lying flat on his back, with head drawn back so far that his forehead is partly concealed by his pillow; eyes are fixed and mouth wide open; emaciation is extreme. Can be aroused with difficulty. It is impossible to bring the head forward. The slightest attempt to do so causes the child to cry out on account of pain. There is marked tenderness along the whole spine. The muscles of the leg are rigid. The pupils are widely dilated, the right more than the left. Hearing not impaired. There is incontinence of fæces and urine. Pulse rapid; temperature, 99° F.

Lumbar puncture was made between the third and fourth lumbar vertebræ, and with a sterile hypodermic needle about fifteen cubic centimetres of an opalescent-looking fluid were withdrawn.

May 5, 1899.—Child's condition continues the same to-day. He rallied somewhat yesterday afternoon after the puncture, but soon lapsed into a semicomatose condition.

Bacteriology.—The fluid obtained from Case I, about fifty cubic centimetres in quantity, was decidedly cloudy, and on chemical examination showed a small amount of albumin. Microscopical examination showed many pus cells, chiefly polynuclear leucocytes; many of the cells contained diplococci, varying in number from two to twenty or more. The two cocci are situated with the broad sides together, closely resembling the gonococcus. They stain with the usual aniline dyes, and decolorize by Gram's method of staining. Cultures were made by allowing the fluid to drop directly from the spinal canal, through the sterilized puncture needle, into the glycerin-agar and blood-serum tubes. From one to three cubic centimetres of the fluid were added to each tube. Of twelve glycerin-agar and eight blood-serum tubes so inoculated, after twenty-four hours' incubation, only three glycerin-agar and three blood-serum tubes showed any evidence of growth. The growth on glycerin agar showed minute round, whitish, sharply defined, non-confluent colonies, which microscopically consist of typical diplococci, staining with aniline dyes, and decolorizing by Gram. After several transplantations the organisms seemed to thrive better, but died out in about two weeks; the blood-serum cultures remained viable longer than those on glycerin agar, and was the best medium for its growth; while the colonies were at first isolated, older cultures on the serum gave a continuous and fairly luxuriant growth. The blood serum is not liquefied. No growth occurred on plain agar, on gelatin, or on potato. Likewise there was no change in litmus milk. Bouillon was slightly clouded, with a small amount of sediment. The twenty-four-hour bouillon cultures, when injected subcutaneously into rabbits and mice, were without any effect, similar cultures injected intraperitoneally were mildly pathogenic. Of three rabbits injected intraperitoneally, one died after three days; no post-mortem. Of two white mice so injected, one died after twenty-four hours, and on post-mortem the organism was recovered.

The microscopical and bacteriological findings of Cases II and III were in every way similar to Case I, although no animal experiments were made.

The fluid from Case IV was cloudy and contained small shreds of fibrin; chemically examined by Heller's method, it showed a very definite ring of albumin.

Microscopically there were a few large epithelioid cells and many pus cells, but no diplococci could be found within the latter. Cultures were made as in Case I. After twenty-four hours one tube of glycerin-agar showed several minute white colonies, in every way corresponding to those obtained in Case I. Microscopically the colonies were composed of typical diplococci; tetrads were occasionally observed, but no chains were noted. Transplantations on the various media failed on all except glycerin-agar and blood serum. Bouillon cultures were pathogenic for white mice when injected intraperitoneally, but not when injected subcutaneously.

While the clinical symptoms of all four of the above cases pointed clearly to cerebro-spinal meningitis, an absolute diagnosis could be made only by lumbar puncture. All these cases showed the *Diplococcus intracellularis meningitidis* either in the fluid or on cultures, several by both methods, and consequently proves conclusively that they belong to the epidemic variety of the disease. In suppurative meningitis the pyogenic cocci and the pneumococcus seemed to predominate. Councilman reports a case of anthrax meningitis in a teemster forty years old. In tubercular meningitis, by the careful examination of the obtained spinal fluid, Pfaundler has found tubercle bacilli in ninety-one per cent. of the cases *intra vitam*.

Lumbar puncture for diagnosis may be of value in other directions besides the bacteriological examination. Quincke (7), in his original article on lumbar puncture, laid great stress on the value of the determination of the subarachnoidal pressure. Pfaundler, working along these lines, reached some interesting results. He measured, by means of a mercury manometer attached to the puncture needle, the pressure exerted by the spinal fluid in health and disease, and gives the following results as an average of a large number of children between the ages of two and twelve years:

In health: Twenty-five millimetres of mercury.

Hydrocephalus: Thirty-seven millimetres of mercury.

Meningitis tuberculosa: Forty millimetres of mercury.

Exorbitant high pressures occur only in meningitis tuberculosa, one of his cases reaching a hundred and ten millimetres of mercury. Suppurative and epidemic meningitis invariably showed an increased pressure. Normal pressure with good heart action contraindicates a meningeal or cerebral affection.

The appearance of the fluid is of value from a diagnostic standpoint. A cloudy fluid is always present in epidemic and suppurative meningitis. In tuberculous meningitis the fluid is usually clear, and on standing forms a weblike coagulum. The cloudiness is caused by cells, the character of the cells differing with the different varieties of meningitis. In tuberculous meningitis lymphocytes predominate, while in suppurative meningitis the polynuclear cells predominate (8). In epidemic meningitis the diplococci will often be found in the multinuclear cells, and is absolutely diagnostic for this variety of the disease.

A faint trace of albumin is always found in the normal cerebro-spinal fluid. In my cases of meningitis the amount of albumin was decidedly increased; however, no quantitative estimation was made. The amount of albumin present in the normal fluid is variously estimated from 0.01 to 0.04 per cent.; in meningitis it may be increased to 0.3 to 0.5 per cent.

As to the therapeutic value of lumbar puncture all do not agree. In Case I improvement followed so immediately upon the operation that I feel justified in concluding "*post hoc, propter hoc.*" In Cases III and IV there was at least a temporary improvement following the operation. By relieving abnormal pressure, and probably by getting rid of some of the toxines, the beneficial results can readily be conceived. The technique of the operation is simple and the pain to the patient is but slight. In children I have found the best position to be with the child lying on its right side and its back slightly arched, so that the spinous processes stand out prominently. Many prefer the child in the sitting position. The puncture is to be made between the second and third, or the third and fourth, lumbar vertebræ. The needle, from five to eight centimetres long, is thrust in about one to two millimetres from the median line, so as to avoid the strong intraspinous ligament. When the needle is within the spinal canal its point can be felt to move freely; if the fluid does not flow spontaneously, slight suction may be made with a hypodermic syringe. Needless to add that all antiseptic precautions must be observed.

A procedure so simple, so readily carried out, and so absolutely devoid of danger, has, I think, no contraindications for diagnostic, if not for therapeutical purposes.

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1513 Madison Avenue.

The Marion Sims College of Medicine.—We learn that Dr. Augustus C. Bernays has resigned from the faculty and intends to devote a portion of his time daily to teaching practical surgery to private classes of graduates in medicine.

ABDOMINAL INJURIES DUE TO BLUNT FORCE.

*REPORT OF TWO CASES.**

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Case I.—John F. L., twenty-two years of age, was admitted to the Brooklyn Hospital, service of Dr. George Ryerson Fowler, September 29, 1897.

History of Disease.—On the day previous to that on which he was taken ill the patient had been deeply intoxicated. He gave an ambiguous account of an accident, the nature of which he was unconscious. The attack began September 28th with general abdominal discomfort and pain, which was most marked in the right iliac fossa. Vomiting occurred twice; character, stomach contents. Onset sudden. Bowels moved on day of attack and on following day.

Present Condition.—Moderate tympanites. General abdominal pain and tenderness. Point of maximum tenderness over supposed site of appendix in right iliac fossa. Stomach does not retain food. Bowels moved. Gas passed. Both recti rigid, right more rigid than left. Temperature, 101° F.; pulse, 124; respiration, 28. A diagnosis of appendicitis was made and immediate operation advised. As the patient was being anæsthetized, a friend of his who had been driving with him the evening before the attack sent word that the patient had suffered a severe injury by reason of the horse starting suddenly as they were about to enter the carriage, the wheel striking the patient in the abdomen. It was not until the effects of the alcohol had worn off that the pain had been felt. This threw the diagnosis of appendicitis in doubt, and a diagnosis of a right-sided intra-abdominal lesion due to traumatism was substituted.

Operation.—Right rectus laparotomy. As soon as the peritonæum was entered fluid blood and clots escaped. Intestinal coils and peritonæum were everywhere moderately congested. Right half of abdomen was explored for site of hæmorrhage. Median incision. Lesion found to be a rupture of the mesentery of the ileum to the left of the median line. Iodoform-gauze packing. Wicking drains through both wounds. Wounds partially sutured. Uneventful recovery. Discharged November 3, 1897.

Case II.—J. McA., aged sixty-three years, admitted Monday, March 13, 1899, at 3.45 p. m. Prepared for immediate operation. Operation 4.30.

Previous History.—On Sunday, day before admission, patient was seen at his home by myself. This was at 2 p. m. Two hours previous to my visit the patient, while in the erect position, was kicked by a cart horse. The site of impact was over the middle line, below the umbilicus, and extending more to the right side than to the left. The direction of the force from the account of the accident was backward, and of sufficient power to cause slight superficial redness and a moderate beginning hæmatoma at the border of the right rectus and lying in front of it. The abdominal wall at the time of injury was relaxed. There was no rupture of the rectus. There was a thick layer of fat present. The kick had been received previous to dinner, and the rectum and bladder had been emptied shortly before. There had been no previous abdominal trouble of any kind. Vomiting had occurred twice, once directly following the injury, and again within the hour. Bile was present in each case. Pain had been severe at first, but now was gradually receding. Tenderness was present over a limited area represented by the superficial redness. Pulse, 100; temperature, 99° F.; respiration, 22. The family physician had ordered morphine sulphate, an eighth of a grain every three hours. The patient had taken one of these just before my arrival. There was no shock present, and but very slight distention, if any. There was very slight dullness over the right flank as compared with the left. The right leg was extended and the left drawn up. There was no bulging at any of the hernial rings. No gas or urine had been passed since the accident, nor was there any desire so to do. Inasmuch as I had been called in an emergency, owing to difficulty in getting their family physician, I could not take charge of the case, though I was somewhat known to the family, as I had taken care of one of the sons on a previous occasion. I told the family that there was a possibility of some trouble within the abdomen, and advised them to have their physician see the case again. At 5 p. m. I was again called. I found the patient's abdomen distended, but not to a marked degree. Pulse, 120; temperature, 100.6° F.; respiration, 32. No gas or urine had been passed. Considerable gas had been belched up. Vomiting had occurred twice or thrice since my first visit. Its character was the same as at first. There was no shock present. No rigidity of rectus. Belly soft. Slight dullness over right flank. Pupils slightly contracted. Another morphine pellet had been taken thirty minutes before my arrival. There was a slight suggestion of the abdominal facies. Tenderness and pain were more marked. There was a continuance and increase of all the symptoms. The bladder could be felt as a rounded mass projecting above the pelvis. I advised immediate removal to the hospital, and told the family that a grave internal injury was present. They consented, but later notified me that they wished a consultation. I arranged for a consultation between the family physician and Dr. George Ryerson Fowler at 7.45 p. m. The patient had taken more morphine and the symptoms were at a standstill. Urine was passed voluntarily. From some outside source the people were prejudiced against entering a hospital, but finally consented to have the patient taken there in the morning. However, the patient did not arrive at the hospital until the afternoon of the day following the injury. His condition on entering the hospital was bad. Pulse, 140; temperature, 102° F.; respiration, 32; anxious face; bluish-gray clammy skin, cold extremities. Not much pain. Slight tenderness. Considerable distention. Operation twenty-eight hours and a half following injury. Abdominal cavity opened in median line. Large amount of fluid blood, bloody serum, flakes of exudate, and a few partially broken-up clots sponged away. Severe peritonitis was present. Intestines intensely congested and covered in places with fibrin exudate. Almost the first loop of small intestine examined showed a circular opening the size of a silver half dollar. This was on the convex surface of the gut farthest from the mesentery and within twenty-eight inches of the ileo-cæcal junction. The mucous membrane was everted and the opening filled with a clot which in conjunction with friable adhesions to a neighboring coil shut off the interior of the bowel from the general peritoneal cavity, and in addition caused an angulation at that point. This opening was protected. No perceptible fæcal matter had escaped. A rapid search for other openings was made. As no other rupture existed, the injured intestine was resected and a Murphy button applied. In addition to the regular technic, a continuous suture surrounded the intestine over the site of junction of the two halves of the button. The intestines were brought out upon hot towels and carefully washed with normal salt solution at a temperature of 110° F. The abdominal cavity was also flushed out and then dried. Wicking drains were inserted to every part of the peritoneal cavity and the intestines returned. The wound was sutured in part only.

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* Read before the Brooklyn Pathological Society, April 13, 1899.

The patient left the table with a pulse of 160. Oxygen was used. He never rallied, but died three hours after the operation.

The vulnerating force may result in injury to the abdominal wall alone, in injury to intra-abdominal viscera alone, or in injury to both wall and viscera. The amount of injury to the abdominal wall may range from simple ecchymosis to rupture of muscular and larger vascular elements. The visceral injury may range from superficial contusion to total disintegration of the walls of the hollow viscera and rupture of the solid viscera.

The extent of injury depends upon the degree of force exerted and the intra-abdominal and intravisceral pressure present. Injuries received when the stomach, gall bladder, large or small intestine, or urinary bladder are more or less full, hence approaching closely the compactness of the solid viscera, are more likely to result seriously as regards the abdominal contents by reason of the lowering of the elasticity and resistance. The presence of adhesions or disease lessens the mobility in the first instance and decreases the normal resistance in the second. The thickness and tone of the abdominal wall plays an important part. If relaxed, intra-abdominal injury is more likely to result. If rigid and of good tone the likelihood of intra-abdominal injury is lessened. It is conceivable, however, that a great force might act in a variety of ways, whatever the resistance of the abdominal wall. The greater omentum, by its thickness and extent, becomes a factor in the distribution of the applied force. The amount of resistance offered by both these structures is more or less a matter of conjecture. Experiments upon the cadaver, as conducted up to the present time, are valueless, as they have been conducted after rigor mortis has been established. Eichel* performed numerous experiments upon animals with the details of which I am not familiar. The conclusion at which he arrived was that the severity of the injury depended less upon the amount of force than upon its direction, and upon the tension and thickness of the abdominal wall. It is natural to suppose that the vertebral column will offer more resistance to a direct than to a glancing blow, hence any interposed viscera must suffer accordingly. The site of impact is also to be considered. It would seem, however, that the pressure conditions of the viscera at the time of injury played a more important part in the production of severe injury than either the amount of applied force, its direction, or the resistance offered by the abdominal wall. Commonly the force is exerted through a kick or the passage of a wagon wheel over the abdomen.

Symptoms may be divided into those referable to the abdominal wall or to the abdominal cavity, or both. Also into immediate symptoms and those which may be termed "secondary"—*i. e.*, referable to particular viscera. Symptoms may be continuous throughout, and either mild or severe in character, or they may be slight at first, and later suddenly become alarming.

The first symptoms present are pain, vomiting, and slight distention, coming on in the order named. *Pain* may be slight or severe. In the cases which have come under the author's observation, pain as an early symptom has not been marked. *Vomiting* is a constant symptom. Its significance depends altogether upon its persistency. *Distention* may be slight or wanting at the very onset, and its increase may be slow or rapid. Some observers have noted retraction of the abdominal wall. *Rigidity* is of value only where it is at first absent and later develops. When present from the onset its cause is probably in the abdominal wall. *Shock* may or may not be present. When present, it is of value in determining the severity of the injury. In the cases personally observed shock was altogether absent. The term "shock" is not used in this connection in the sense of "collapse," which latter may intervene at any stage. The passage or non-passage of gas or urine for several hours is worthy of note. *Temperature* and *pulse*, especially the latter, are of extreme importance. Taking out of account the temperature and pulse of shock, it will be observed that cases of grave intra-abdominal injury have in most cases a steady rise of temperature from the very incipiency of the trouble, and in all cases a continuous acceleration of pulse rate.

Diagnosis.—The first questions relate to the character of the applied force, the site of its external impact, and its direction. Next, the probable condition of the abdominal wall and the viscera; the time elapsed since the last meal; the time when the bladder and sigmoid were last emptied; the history of previous disease of any of the abdominal viscera. The pulse, temperature, and respirations, and the degree of shock, if present, noted. Vomiting, its time of onset, its character, and its persistency. Distention, its time of onset and rapidity, and whether it is extravisceral, as shown by the absence of normal liver dullness. This last is valueless in early diagnosis. By the time the liver dullness is lost the case has usually passed beyond the skill of the surgeon. It is of extreme importance to ascertain whether opium has been administered. Opium, even in small doses, given in the incipiency of intra-abdominal injuries, renders diagnosis difficult, and in many instances impossible. It disguises the true character of the pulse and respiration, lessens the pain and destroys the tenderness, lowers the temperature, frees the rigidity of the rectus, and delays the distention. It should never be administered before diagnosis. The condition of the abdominal wall is noted; also the relation of the rectus to respiration. Having determined that the force was sufficient to produce severe injury, it is not necessary to discover if that injury is located in the abdominal wall, for that is of trifling moment compared to any intra-abdominal lesions; but rather must we apply all aids at our command to ascertain the presence or absence of the latter, its location being of trifling import.

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* Abstract in *Centralblatt für Chirurgie*, 1898, xlv, p. 1115.

Immediately following severe injury, it is perhaps impossible to arrive at a positive diagnosis. It is needless to remark that all such cases should be closely watched, bearing well in mind the probability of intra-abdominal lesions. The patient or his friends should be warned of this feature in every case. The immediate symptoms may be slight. The pain, vomiting, tenderness, and shock, when present, may be mild in character. If so, and if they are transitory, well and good; the case will probably terminate satisfactorily. But if the initial symptoms persist in ever so mild a form, especially the tenderness and acceleration of pulse, the diagnosis is fairly positive; if, in addition to persisting, they increase ever so slightly, the diagnosis is fairly assured; while if yet further to the increase of these symptoms there is added beginning moderate increasing distention, and a moderate steadily increasing rise of temperature, the diagnosis of grave intra-abdominal injury is made absolute. This is the picture presented by the most insidious cases. In other cases the diagnosis is assured from almost the very start. In practically all cases a few hours' close observation will establish the diagnosis. It is not by the mere presence of the symptoms that a diagnosis is made, but from their persistency and steady increase. Intra-abdominal hæmorrhage is present to a greater or less degree in all cases. It may be present in sufficient amount to give rise to symptoms of concealed hæmorrhage. The fluid blood may produce dullness over either flank. There is no injury or disease which requires the absolute mastery of physical diagnosis, the exact knowledge of visceral relationship, as is required here. It must be remembered, too, that the fact of a receipt of an injury must be absolutely established. Notwithstanding its difficulties, diagnosis must be made, and made within a few hours of the receipt of the injury, if the patient is to be benefited. The determination of the exact nature of the injury is in many cases impossible in the time afforded, if the life of the patient is to be saved. The nature of the symptoms as outlined above furnish sufficient grounds for an exploratory laparotomy. This should be done in all cases except in those whose condition is so desperate that anæsthesia means certain death. Any of the viscera may have received injury and be producing the symptoms, but no time must be wasted in endeavoring to determine which viscus is at fault. If we wait for liver dullness to be obliterated we may not only wait in vain, but will destroy the patient's only chance of recovery. We can not wait for our patient's belly to fill with blood from a ruptured mesenteric or renal vein; we can not wait for the fully developed peritonitis of gall bladder or urinary bladder rupture; we can not wait to establish a definite diagnosis of perforation of some portion of the gastro-intestinal tract, for if we do, we seal our patient's fate.

HODGKIN'S DISEASE.

*WITH REPORTS OF CASES.**

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Hodgkin's disease, pseudo-leucæmia, or lymphadenoma, though a comparatively rare disease, occurs with such frequency that few general practitioners fail to see one or more cases of this interesting but somewhat obscure affection, and while the diagnosis in the early stage often presents great difficulties, when well established it presents features so characteristic that the true nature of the case could hardly be overlooked.

The following brief reports of four cases taken from my case book serve to illustrate the principal features of this disease, and two of them are especially interesting as affording some evidence in favor of the specific infectious theory which has been advanced by some observers:

Case I.—J. P., aged thirty-nine years, farmer, consulted me in the summer of 1891 for lumps in his neck, under his arms, and in the groins. Previous to the present illness patient had been a very healthy man, never having consulted a physician before. His family history was very good; father, mother, and ten brothers and sisters living and well, with no history of tubercular, blood, or gland disease. About five months before coming under my observation he had noticed lumps in the right side of his neck, at first small like marbles, but growing rapidly until some of them had attained to the size of a large orange. At comparatively short intervals smaller lumps appeared in the left side of the neck, in both axillæ, and in both groins, those in the axillæ rapidly increasing in size to form large masses. About four months after his attention was first drawn to his condition he found that his abdomen had become larger, particularly on the left side, and this growth rapidly increased. He had lost color and strength so that he was now unable to attend to his duties. His weight was reduced by twenty-five pounds. At first he had noticed no fever or disturbance in his general health, but for about six weeks past had had frequent chills, followed by fever, loss of appetite, moderate diarrhœa, and rapid loss of strength, with dyspnœa upon exertion and œdema in the ankles.

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* Read before the Middle Tennessee Medical Association, May 18, 1899.

On examination, patient is a strongly built man, but his muscles are soft and flabby, and he shows evident signs of emaciation. Anæmia is marked, and there is shortness of breath on exertion. Numerous enlarged glands are seen on both sides of his neck varying in size from a bean to a large apple, the largest being situated on the right side.

In the axillary and inguinal regions the glands are enlarged, one in the left axilla approaching the size of a large cocoanut. These glandular masses are soft, elastic, freely movable, not matted together, and only slightly tender, the superficial skin looking normal.

The spleen is greatly enlarged, and extends downward to within an inch of the anterior superior spine of the ilium, and forward to within two inches of the median line. It is smooth, regular in outline, but is tender on pressure. Liver measures four inches and a half vertically in the nipple line, and is easily palpable below the ribs. Heart and lungs show no evidence of disease. Temperature taken in the afternoon was 102.6° and pulse 112. Urine normal.

Blood count shows 2,900,000 red corpuscles to the cubic millimetre and 8,600 white cells.

The case progressed rapidly to a fatal termination, chills and fever recurred at almost daily intervals, the glands and spleen rapidly increased in size, anæmia became more pronounced, and the patient died from profound asthenia eight months from the time when the symptoms were first observed. Before death the large glandular mass in the left axilla ulcerated through the skin, leaving a foul ragged sore. For some weeks before the enlarged glands were first noticed patient had suffered from a troublesome alveolar abscess in connection with the right lower molar tooth.

CASE II.—Seen in 1894. A young girl, fourteen years of age, first had enlarged glands in the right, later in the left axilla, and within four months masses had developed in both sides of neck and both groins. The spleen was enlarged sufficiently to render it distinctly palpable, anæmia was a prominent feature, while emaciation was moderate. For a time under full doses of arsenic the color improved and the glands appeared to diminish in size, but after a short period the disease again progressed steadily, the patient dying twenty months after the symptoms were first observed.

Blood examination showed nothing but moderate diminution in red cells.

CASE III.—Date of note January 17, 1899. W. M., aged six years, a white boy, native of Tennessee, was quite healthy up to nearly two years ago. His father, mother, and sister are alive and well. His father's father, brother, and two sisters died of pulmonary tuberculosis. There is no history of syphilis or of blood or gland diseases.

Nearly two years ago the boy had a severe attack of non-suppurating amygdalitis, limited to the left tonsil, which was followed immediately by enlarged glands behind the angle of the jaw. These glands slowly increased in size, others beneath the sterno-mastoid soon became affected, and about ten months later those in the left axilla became involved. Six months later the glands in the right side of the neck, right axilla, and later still those in the groin, began to enlarge. Within the past two months a tumor was noticed in the left side of the abdomen, and during this latter period this tumor and the various glands have grown rapidly. For several months he has had irregular febrile attacks, with a temperature ranging from 100° to 102° F., and lasting three or four days to a week, then declining for about two weeks. Has grown anæmic and weak, but has lost little flesh. Has had two slight attacks of epistaxis. There has been no pain complained of throughout the case.

The boy is fairly well nourished, but decidedly anæmic. Numerous enlarged glands, varying in size from a small marble to a Tangerine orange, are seen on both sides of the neck, chiefly under and in the vicinity of the sterno-mastoid. They are moderately soft, elastic, freely movable, not being adherent to the skin or to one another and not painful on pressure. Skin over glands normal, and presents no old or recent scars. Similar smaller growths are present in both axillæ and both groins. The spleen is enlarged to form a large tumor, which extends downward to an inch below the anterior superior spine of the ilium and forward to within an inch and a half of the median line. It is firm, smooth, regular, and movable on inspiration. Liver is enlarged, being four inches in vertical line and felt an inch and a half below the costal margin. It is also smooth and regular in outline. No signs of disease in lungs. Urine normal. Blood shows 2,238,000 red cells, moderate poikilocytosis. No increase in leucocytes.

May 13th.—About three weeks after date of last note the boy began to improve. This improvement became very marked. The glands grew smaller than they had been since early in the disease. His waist measure decreased two inches, and general health improved. This continued for about a month. Since then he has had febrile attacks, lasting five or six days, with intervals of about two weeks, during which there was a slight increase in temperature. He is now passing through his severest attack. The glands in the cervical regions are enormously enlarged, and his waist measure is now twenty-seven inches. His feet and legs are swelling considerably, and a large hydrocele is developing. A croupy cough, with difficulty in breathing, has also appeared, and his general condition is worse than at any previous time.

CASE IV.—Date of note April 24, 1899. Mrs. X., aged thirty years, white, mother of four children, all healthy. Family history very good; no history of tuberculous, blood, or gland diseases, but patient and her brother in early youth suffered frequently with severe attacks of epistaxis. Up to September last patient was a strong and healthy woman of good color, weighing in August a hundred and fifty pounds.

Some time in September last she noticed a small lump in the left side of the neck above the outer third of the clavicle, but as it was small, painless, and caused her no trouble, she paid little attention to it, though similar lumps soon appeared on the right side of the neck. About the end of December she had an attack of "grippe," with fever, cough, and prostration. This reduced her strength to such an extent that in January she was sent to Florida for the balance of the winter. She returned home about the middle of April in much the same condition as when she went away. She gained nothing in strength, had distinctly lost in color, and her weight had been reduced a little more, weighing now only a hundred and nineteen pounds. Cough and dyspnœa on exertion persisted, and the lumps were now present on both sides of the neck, and also in the axillary and inguinal regions. Patient now complains of great weakness, dyspnœa on exertion, puffing of the ankles, cough, which is loud, harsh, almost brassy in character, and attacks of suffocative dyspnœa at night, especially if she lies on her back or left side. She has no chills, but thinks she is feverish in the afternoons. Her appetite is fair, digestion good, bowels a little loose. No hæmorrhages.

On examination, patient is very anæmic. Enlarged glands are found in both sides of neck, in axillæ, and in groins, ranging in size from that of a marble in the groin to an orange in the neck. They are freely movable, moderately soft, but a little tender on pressure; otherwise painless. Distended veins are seen on the left side of the neck. Spleen is enlarged sufficiently to render it distinctly palpable. Liver normal in size.

From the heart there is continuous dullness up the sternum to the episternal notch; this extends to the right border of the sternum, and to the left to a point two inches from its left border at the upper end, tapering down to the sternal border in the fourth space. Breathing is deficient over the left lung throughout; otherwise no signs of disease in lungs.

Heart gives no evidence of disease. Temperature, 10 A. M., 99.2°; pulse, 108. Temperature, 3 P. M., 100.6° F.; pulse, 112. Urine normal. Blood shows 3,200,000 red corpuscles, 7,800 white.

May 16th.—Since above note patient has less cough, can sleep on either side, the temperature has been normal for nearly two weeks, and she is feeling stronger. No special change can be detected on physical examination except that the left leg has begun to swell throughout its whole length, especially toward night. This is unattended by pain in the leg, but there is pain in the left inguinal region. Reduction in the size of the glands in the neck is noted, and the tenderness has disappeared.

In connection with the reports of these cases it may not be out of place to make a few remarks on the nature of this affection, the origin of which is not yet understood.

Hodgkin's disease—so called after Hodgkin, of Guy's Hospital, who first described it—is characterized by a progressive proliferation of the lymph glands with frequently secondary lymphoid growths in the spleen and liver, and progressive anæmia. The superficial glands in the cervical, axillary, and inguinal regions are usually first affected, and later on the mediastinal, bronchial, and retroperitoneal glands.

At first soft and movable, they frequently in the later stages become firm and matted together into large masses, up to the size of an orange or even a large cocoanut. As a rule they present a uniform grayish-white color on section, and do not caseate or ulcerate through the skin; but occasionally during rapid growth they will burst their capsule, and pressure upon the skin leads to necrosis and ulceration. In about four fifths of the cases the spleen is enlarged from the growth of lymphoid tissue, but it rarely attains to the size seen in leucæmia.

The ætiology of the disease is still shrouded in doubt. It occurs most frequently in males and in early life. In many cases the patients will give a history of perfect health prior to the onset of the disease, as in Cases II and IV reported.

Irritative lesions in the vicinity of the mouth have preceded the disease in so many instances that some observers have advanced the theory that it is due to infection. Trousseau noted the frequency of this association, and recently Flexner has found in two cases certain protoplasmic foreign bodies which he thinks may possibly be the cause of the disease. Cases I and III support this view. The fact that the disease promptly followed a unilateral amygdalitis in the boy's case almost forces one to the belief that there must have been some relation between the local inflammation and the subsequent disease in the glands, the specific infective agent gaining an entrance through the tonsil.

Symptoms.—The onset of the disease is usually insidious, the patient's attention being first drawn to his condition by the glandular enlargement. Anæmia, which is present to a variable degree in practically all cases, usually is first noticed after the affection is well under way and is progressive. Though generally well marked, it is rarely excessive, the blood count usually showing from 2,500,000 to 4,000,000 red cells to the cubic millimetre. The dizzy headaches, faintness, shortness of breath on exertion, noises in the ears, epistaxis, muscular weakness, and œdema of the feet are associated with the anæmia. Fever is present at some period in nearly all cases. It is usually slight and fairly constant, but in some cases occurs at regularly recurring intervals, rising to 102° or 103° for some days, then falling to normal for a week or more, as is shown in Case III. My own observation goes to show that the fever is most marked in those cases which run a rapid course. Osler records a case in which bronzing of the skin was a marked feature.

The glandular tumors usually first appear on one side of the neck, and after a varying period of usually months, but sometimes a few years, they are seen on the opposite side of the neck and in the axillary and inguinal regions. The growths are at first painless, moderately soft, and freely movable, but later in the case they may become firm, matted together, and in some cases produce ulceration of the overlying skin. Their size varies from small nodules to large masses which may press the head over to the opposite side. A peculiar feature is the variability in the size of the glandular masses, which is frequently observed during the course of the disease, as in Case III. The temporary reduction in their volume may be so marked and so rapid as to hold out delusive hopes of recovery to the patient.

In most cases various additional symptoms are seen due to the pressure of the growths on adjacent parts, as, for example, venous distention and œdema from occlusion of veins seen sometimes in the arm or leg, as in Cases III and IV, or pain from pressure on nerves.

The growths in the bronchial and mediastinal regions, by diminishing the calibre of the trachea, may give rise to dyspnœa, cough (which is usually harsh and ringing), or partial or complete interference with the admission of air into one lung. These symptoms are well illustrated in Case IV, which also shows the dullness in the upper sternal region caused by enlarged mediastinal and bronchial glands. Pressure on the recurrent laryngeal nerve may cause aphonia.

The spleen is often enlarged, sometimes to a considerable size, as in Cases I and III, but usually the increase in size is only moderate. The blood shows no special changes beyond a moderate reduction in the number of red cells. Unlike what occurs in leucæmia, the leucocytes are not increased.

Diagnosis.—In the early stages it is often extremely difficult, if not impossible, to distinguish the disease from tubercular adenitis. The presence of tuberculosis elsewhere may render valuable assistance, but it is well to remember that the two diseases may exist together. In tubercular adenitis the glands in the anterior triangle of the neck are usually affected, while Hodgkin's disease generally first attacks those beneath the sterno-mastoid and in the posterior cervical region. In the former disease tenderness on pressure, signs of inflammation, and a tendency to suppurate are common features, while they are rare in Hodgkin's disease. Enlargement of the spleen is decidedly in favor of the latter. Syphilis may be excluded by the history and the absence of other manifestations of syphilitic disease.

The blood examination will readily serve to distinguish it from leucæmia.

Prognosis.—Recovery is very rare, if it ever occurs. I have never seen a case recover. The disease usually runs its course in from one to three years, but it is very variable, some cases lasting several years in a quiescent state, while, on the other hand, Shattuck and Cabot report a case in which the whole course of the disease occupied only seven weeks.

Treatment.—From the foregoing remarks it will be readily seen that but little reliance can be placed on therapeutic measures. Arsenic given as Fowler's solution, at first in small doses and gradually increased up to the limit of toleration, certainly has some effect in many cases, improving the patient's general condition and frequently inducing a temporary reduction in the size of the growths, as in Cases II and IV. Phosphorus has been recommended. As there is marked debility, general hygienic measures should be carried out and general tonics administered to support the patient and increase his resisting powers to the disease. Surgical measures are probably of no avail beyond the removal of the deformities.

The Quarterly Medical Journal, of London.—It is announced that hereafter the journal will be issued in November, February, May, and August, instead of October, January, April, and July.

OPHTHALMIC CLINICAL CONTRIBUTIONS.

By DAVID WEBSTER, M.D.

Case I. *Abscess of the Frontal Sinus.*—O. M. B., aged seventy-seven years, a retired broker, came under my observation March 31, 1888. He had been troubled with a "bad catarrh" for many years. In October, 1887, a swelling appeared above his left eye. The eye was entirely closed by this swelling at first, but after a time the inflammation subsided to a certain extent, and only a small lump remained, which "lump" was situated just beneath the internal angular process of the frontal bone. Upon palpation this swelling above the inner canthus was found to be soft and fluctuating, and evidently contained a fluid. From the history, and from the objective examination, I came to the conclusion that it was an abscess of the frontal sinus, communicating with the orbit through a fistulous opening in the bone. To confirm the diagnosis I introduced the needle of a hypodermic syringe through the fistula into the frontal sinus and withdrew it filled with a greenish-white fluid which was offensive in its odor. As the patient was without means I sent him to the Manhattan Eye and Ear Hospital for operation and for further treatment. He was admitted to the hospital on April 4th, and having put him under ether, I made an incision about three quarters of an inch in length parallel with the fibres of the orbicularis and through the front wall of the abscess, and evacuated a considerable quantity of thin and very offensive pus. A curette was introduced into the frontal sinus, the granular mass found there was curetted away as thoroughly as possible, and a drainage tube was inserted.

April 10th.—The discharge has not been copious. The wound has been washed twice daily, and the cavity has been syringed out with solution of bichloride of mercury, 1 to 2,500. To-day I left out the drainage tube.

17th.—The external wound being healed, the patient was discharged.

27th.—Pus had collected again, but had reopened the wound and discharged spontaneously. I enlarged the opening and reinserted the drainage tube.

May 5th.—The discharge being very slight, the drainage tube was left out, and the wound was kept open with strips of lint or gauze.

This patient continued under observation for several months longer. The wound was syringed daily some of the time, and at varying intervals the rest of the time. Finally, when not a drop of pus showed itself for a week or two, the external wound was allowed to heal again, and the patient had no further trouble with his eye. Possibly the disease of the frontal sinus would have been cured much sooner if communication had been established between the sinus and the nose at the time of the operation, and had been kept open by drainage tubes and syringing; but the patient was a very feeble, broken-down old man, and I thought it better to use as little violence as possible in his case, even though it should take longer to effect a cure.

Case II. *Uniocular Trachoma with Pannus and Ulcerative Keratitis.*—Kitty H. came to the clinic at the Manhattan Eye and Ear Hospital in December, 1887, with trachoma, pannus, and ulcers of the cornea, left eye. She came several times a week, and was treated with atropine and with glycerole of tannin, and with other local applications, until May 1, 1888, when she was admitted to a bed in the trachoma ward.

May 9th.—As it was thought that the pressure of the upper lid upon the eyeball was tending to keep up the corneal inflammation, ether was given and a cantholysis was done. Iced cloths and atropine constituted the after-treatment. The stitches were removed two days later. The first record of vision was on May 16th, when R. V. = $\frac{20}{30}$ and L. V. = counting fingers at two feet.

17th.—Pressure forceps has been used in the mornings, and glycerole of tannin at night.

28th.—The eye is much improved; the ulcer is healing, and the vascularity of the cornea is disappearing.

June 9th.—The vision of the affected eye is up to $\frac{4}{200}$.

11th.—The keratitis is cured. No blood-vessels are visible upon the cornea. The corneal ulcers are healed and only diffuse opacities remain.

July 10th.—The conjunctiva of the upper lid is swollen, and appears as though bordering on acute trachoma. The treatment was changed to iced cloths and sulphate of copper.

30th.—The acute swelling having subsided, the iced cloths and sulphate of copper were stopped and the patient put upon the use of Agnew's spray.

August 2d.—Left vision = $\frac{3}{200}$.

20th.—Left vision = $\frac{8}{200}$.

September 1st.—Left vision = $\frac{11}{200}$. The inflammatory symptoms having almost entirely disappeared, and the patient being comparatively comfortable, she was discharged from the hospital and directed to attend the afternoon clinics.

CASE IV. *Marginal Keratitis, Both Eyes, with Ulcer of Left Cornea. September 10, 1888.*—Katie R., aged twenty-three years, has had recurring attacks of keratitis for years, and has been treated at various eye clinics. The present attack dates from the 24th of August, since which time she has been treated at the outdoor department of the Manhattan Eye and Ear Hospital. She has marginal keratitis of both eyes and a small corneal ulcer of the left. The eyelids are red and the conjunctivæ hyperæmic. The patient was admitted to a bed in the wards, and put upon instillations of atropine solution thrice daily and frequent bathings with hot water.

13th.—The right is already quiet and white; the left is looking much better. On admission the vision was = $\frac{20}{30}$, each eye. The eyes being now thoroughly under atropine, the vision and refraction were tested, and the following results were found: R. V. = $\frac{20}{200}$, made $\frac{20}{20}$ with + 5.50 D.; L. V. $\frac{12}{200}$, made $\frac{20}{30}$ with + 5.50 D. The impaired vision of the left eye is accounted for by slight opacities of the cornea, the results of old corneal ulcers.

16th.—Both eyes being well, glasses + 4 D. were ordered for both eyes and the patient was discharged, with instructions to wear the glasses all the time.

CASE V. *Syphilitic Iritis with Total Synechia Posterior and False Cataract; Iridectomy; Vision Unimproved.*—Miss Lavenia W., aged thirty-two years, first consulted me at my office on October 6, 1886. The diagnosis was "old iritis with synechia posterior, left eye." She had R. V. = $\frac{20}{20}$; L. V. = $\frac{\ }{70}$; no improvement with glasses. The eye had been inflamed from February until June, and had been treated only with domestic remedies. There was a history of rheumatism, or pain in the joints, when she was first attacked with the eye trouble. Her left wrist had been swollen and painful. She said that she had had no sore throat, but that her hair had been falling out a good deal, and had not ceased to do so. In September she had been covered, in places, with an eruption like "the hives." The patient was put upon atropine locally, and mercury with iodide of potassium internally.

November 20th.—The patient made her second visit this morning. The vision of the affected eye is down to counting fingers at two feet. She complains of "floating strings and specks" before the eye. The exudation into the pupil prevents an examination of the fundus. She now has enlarged post-cervical glands, and complains of pain in the back of her head. Her throat has been sore for the last two weeks. Inspection shows syphilitic ulceration of the fauces. She was put upon increasing doses of iodide of potassium.

March 21, 1898.—L. V. = $\frac{2}{200}$. She is taking forty-five drops of a saturated solution of iodide of potassium three times a day. She was instructed to continue to increase the dose. This was the last time she came to the office.

May 12th.—She was admitted to a bed in the Manhattan Eye and Ear Hospital. There were then diffuse corneal opacities in addition to her old iritis and false cataract, but she could still count fingers at one foot. The general symptoms of syphilis were in abeyance. The upper part of the cornea was less opaque than the rest of it, and it was thought that an iridectomy upward would not only improve the vision but would put the eye in a healthier condition by facilitating the circulation of the fluids within it. Accordingly, an iridectomy upward was performed, under cocaine anæsthesia, and with antiseptic precautions.

15th.—The eye is doing well. There has been no pain and very little reaction from the operation. Ordered atropine to be dropped into the eye night and morning, and the patient to wear medium-smoke coquilles.

18th.—The patient was discharged with the eye looking very well and feeling very comfortable, but with the same vision as before the operation. The right eye was at no time involved.

327 MADISON AVENUE.

A CASE OF
ACUTE ALCOHOL POISONING IN A CHILD.

By MAURICE A. WALKER, M. D.,
MELROSE, MONT.

CASES of acute poisoning by alcohol in children, followed by death, being not very frequent, I report briefly the following:

Willie L., six years and three months old, of good family and personal history, unaccustomed to the use of alcoholics, bright and well developed for his age.

At some time between 8.30 and 9.30 A. M., before they had eaten breakfast, he went with his two brothers, aged eight and four years, to a closet where whisky was kept. Each poured out and drank undiluted whisky from a glass capable of holding about three ounces and three quarters. From the description given by the oldest boy, Willie probably drank about three ounces, and each of the other children about two ounces. The parents knew nothing of the escapade until about 9.30, when, on sitting down to breakfast, Willie first dropped a plate and then fell from his chair. At

10.15 he fell asleep on the floor and his mother put him to bed, thinking he would “sleep it off.”

There was no thought of any serious consequences until 7.30 P. M., when the parents were unable to rouse the boy, and sent for me. I arrived at the house at 7.45 P. M. and found the boy's condition as follows:

He was completely comatose, pupils of equal size, widely dilated and unresponsive to light; the internal and superior recti contracted; conjunctivæ insensitive. Pulse 145, small and weak, very compressible, but regular. Respiration 40, easy and quiet. Skin of head and face cool and slightly moist. Tongue and lips somewhat dry. Trunk and extremities hot and dry. Axillary temperature 103.2° F.

In spite of all remedial measures, after the first hour of my presence there was slow but continual failure of heart and respiration, but during the first hour there was a hardly perceptible improvement in the rate and power of the heart.

At 10.30 P. M. a severe clonic convulsion occurred, lasting perhaps ten minutes, and from this time there were almost constantly recurring localized spasms of the muscles of the face and extremities, the left side being much more affected than the right. Occasional nystagmus was present.

Cheyne-Stokes respiration began at about 2.45 A. M., and death from cardiac failure occurred at 5 A. M., probably twenty hours after ingestion of the whisky.

With the possible exception noted, no means of stimulation seemed to have the slightest effect on the heart. The rectal temperature rose to 105.3° just before death.

Therapeutical Notes.

For Dental Caries.—The *Riforma medica* for June 17th ascribes the following to Dauchez. Introduce into the dental cavity, previously dried, a plug of cotton impregnated with one of the following preparations:

℞	Hydrochloride of cocaine, Menthol,	of each, 1½ grain;
	Liquefied crystals of carbolic acid	1 drop;
	Essence of cloves	75 grains;
	Camphorated alcohol	120 “

M.

Or—

℞	Orthoform, Carbolic acid,	of each 15 grains;
	Camphor, Chloral hydrate,	of each 60 “

M.

Ipecac Enemata for Habitual Constipation.—Dr. R. Blondel (cited in the *Gazette hebdomadaire de médecine et de chirurgie* for May 25th) recommends the use of this formula:

℞	Aqueous extract of ipecac	1 part;
	Distilled water	5 parts.

M. From a half to a full coffeespoonful, in about five ounces of water, to be used in the morning as an enema and retained until it is absorbed, usually about half an hour. Generally a normal movement will occur in the evening, and in some cases there will be one every day for two or three days. There is no pain or nausea produced by the remedy.

The Treatment of Intertrigo.—The *Riforma medica* for June 22d gives the following as Besnier's formula:

℞	Quinine oleate	1 part;
	Lanolin	30 parts;
	Olive oil	20 “

M. To be rubbed on twice a day, after which the parts are to be dusted with powdered starch.

An Ointment for Gonorrhœal Rheumatism.—Lemoine (*Correspondenzblatt für schweizer Aerzte*, 1899, No. 7; *Medicinisch-chirurgisches Central-Blatt*, May 12th) recommends the following formula:

℞	Salol	8 parts;
	Menthol	5 “
	Ether	8 “
	Lanolin	60 “

M.

A Specific for Menstrual Disturbances.—According to the *Journal of the American Medical Association* for August 12th, Professor Hirth, of Munich, was for two years superintendent of the European customhouse at Chung King, the metropolis of western China, Mongolia, and Thibet, where his attention was called to the tang kui root, which has been used for many centuries in China as a remedy for menstrual disturbances. He and others have been testing it, and he is strongly inclined to believe that it is the long-sought specific for amenorrhœa without abortifacient properties. He describes it and its action in the *Münchener medicinische Wochenschrift*, No. 23.

Ipecac in Atonic Dyspepsia.—*Lyon médical* for July 2d cites two formulæ of Dr. Mathieu's as follows:

1.	℞	Tincture of physostigma	6 parts;
		Tincture of ipecac	1 part;
		Tincture of star-anise	5 parts.

M. S.: Six drops, in a glass of Vichy, after each meal.

2.	℞	Tincture of ipecac, Tincture of calumba, Tincture of gentian,	equal parts.

M. S.: From fifteen to thirty drops after each meal, in two portions from half an hour to an hour apart, in a little water.

For Herpetic Affections of the Cornea.—M. Galezowski (*Recueil d'ophthalmologie; Journal des praticiens*, July 22d) recommends the following pomade:

℞	Vaseline	150 grains;
	Neutral hydrochloride of cocaine	¾ grain;
	Porphyrized iodoform	1½ grain.

M.

Hot applications and sprays of weak carbolized water, once or twice daily, may be used in addition.

Oxycamphor as a Remedy for Dyspnœa.—Jacobson (*Berliner klinische Wochenschrift*, 1899, No. 16; *Wiener medizinische Blätter*, 1899, No. 30) recommends the use of “oxaphor” (a fifty-per-cent. alcoholic solution of oxycamphor) according to the following prescription:

℞	Oxaphor	10 parts;
	Alcohol	20 “
	Tincture of licorice	10 “
	Distilled water, enough to make	150 “

M. S.: A tablespoonful three times a day.

He has usually found the drug of service in dyspnœa, whether of pulmonary, cardiac, or renal origin.

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ANÆSTHETICS AS A CAUSE OF PARALYSIS.

He who upsets an erroneous doctrine sometimes performs as important a service as he who establishes a new one. Such a service seems to have been performed by Mally, who has made a study of thirty-six cases of paralysis such as authors have been inclined to impute to anæsthesia (*Revue de chirurgie*, July). In ten of them, he finds, there was a central lesion that accounted for the paralysis; six of them were hysterical; seventeen others he classes as peripheral, and proceeds to investigate them *seriatim;* and the three remaining cases he sets down as reflex. It is noteworthy that, of the seventeen peripheral cases, eight were observed by the author personally, and perhaps it was that fact that led him to make the investigation.

Mally rejects the idea that there is any connection at all between anæsthesia and the hysterical and reflex paralyses. Those of central origin may be due indirectly to the anæsthetic, which in a purely mechanical way leads to the rupture of a blood-vessel in the brain. The peripheral paralyses, which are rather frequent, are always, he finds, due to compression, and the anæsthesia has only this to do with them, that it favors involuntary or accidental compression of nerve trunks or the roots of the brachial plexus in the course of an operation. There is no evidence, he says, to show that the toxic or depressing action of the anæsthetic has anything to do with giving rise to paralysis, and any such action on the nervous system is only hypothetical.

As regards the treatment of these paralyses, it is both preventive and curative. During anæsthesia the patient's arms should not be forcibly drawn up, and care must be taken that none of the limbs are allowed to hang over the edge of the operating table or suffer compression by the weight of the patient's body or by any ill-placed constricting band. As to the curative treatment, cases of central or hysterical origin present no different indications from those afforded by such paralyses in general. The peripheral paralyses due to compression may be treated with advantage by the ordinary procedures of localized faradization, and they should be applied as soon as possible. When the reaction of degeneration is present, however, localized electrization must be avoided. The wasting of muscles about the shoulder joint that is apt to result from paralytic immobilization may be prevented by resorting early to passive motion of the joint. The grave reflex paralyses should not be treated by localized electrization, but the reflex irritability of the spinal cord may be moderated by sedative applications of static electricity, by the "electric wind," and, if it is indicated, by revulsion over the vertebral column by means of friction and sparks.

STRETCHERS AND BLANKETS IN RAILWAY SURGICAL SERVICE.

In Macon, on April 18th, there was held the ninth annual meeting of the Central of Georgia Railway Surgeons' Association. Apparently the meeting was not confined to members of that particular association. One of the company's surgeons, Dr. George C. Trimble, of East Point, Georgia, read a paper entitled The Need of Stretchers and Blankets in Railroad Service, which is published in the *Railway Surgeon* for June 27th. Dr. Trimble's paper was brief, and he introduced his subject modestly, remarking that it might have been under consideration before. He then proceeded to draw a forcible picture of the suffering that might be saved, in many cases of railway injury, if the surgeon had at his disposal suitable stretchers on which the wounded might be conveyed comfortably to a place of refuge and a supply of blankets to aid in preserving the natural warmth of the body when the patient was suffering from the shock incident to a severe injury.

Dr. Trimble's paper evoked a satisfactory discussion of the matter of stretchers, and it is gratifying to learn from the published account of that discussion that the larger railways of the country are adequately provided with those useful accessories to the care of persons injured in railway accidents. On the whole, the army stretcher was considered satisfactory. The matter of blankets, however, does not seem to have been discussed to any adequate extent. It came out that in case of accident the railway companies were not infrequently obliged to attempt to borrow blankets from families living in the vicinity of the site of an accident, and that they often encountered a decided unwillingness on the part of families, even those of negroes, to contribute from their bed-clothing in cases of need. This does not speak well for the humanity of the people among whom the speakers' efforts had been made, but it does speak loudly in favor of provision being made by the companies for sufficient supplies of blankets to make the victims of accidents as comfortable as warmth can make them. Dr. Trimble is to be commended for having made this appeal, and we feel confident that it will not pass unheeded by the railway companies of the country. But a trifling outlay would be required to supply the necessary blankets, and we may be sure that the companies will be ready to make that outlay.

INJECTIONS OF BRAIN EMULSION IN TRAUMATIC TETANUS.

One's inclination to speculate as to the *modus operandi* of the brain substance of an animal in the cure of tetanus is hard to resist, but for the present we will content ourselves with giving a summary of what the treatment has achieved thus far. In the *Wiener klinische Wochenschrift*, 1898, No. 34, Dr. Anton Krokiewicz published an account of his first case, in which he was successful in curing the patient. He used an emulsion of the calf's brain with a physiological salt solution. In all, he injected 233 grains of brain substance, in three doses, observing every aseptic precaution. The case was one of moderate severity, but complete recovery took place in eleven days. The only unpleasant results were abscesses at the points of injection.

Shortly afterward Schramm, of Lemberg (*Przeglad lekarski*, 1899, No. 3), related his success in another case, that of a girl nine years old with whom he employed, in all, 240 grains of the rabbit's brain, without giving rise to abscesses. Schramm's reason for using the rabbit's brain instead of the calf's, says Krokiewicz, was that it could be had perfectly fresh, whereas one would have to wait for several hours for a calf's brain from the slaughterhouse. Moreover, Schramm filtered his emulsion through thick sterilized gauze, in order to avoid injecting gross particles. These two facts probably account for the freedom from abscesses in his case.

In the *Wochenschrift* for July 13th Krokiewicz records the third successful case, the second of his own, the details of which it would not be worth while to repeat here, save to say that leech-bites seem to have been the source of infection. In this case the author used the rabbit's brain, 600 grains in all, with Schramm's precautions. It thus appears that subcutaneous injections of an emulsion of brain substance have been resorted to in three cases of traumatic tetanus, and with success in every instance. If like results can be secured in the future, it would seem that we have little more to fear from tetanus. At all events, Krokiewicz's treatment is easily carried out, and, in our opinion, it ought by all means to be tried, although we would not advise an abandonment of the ordinary palliatives.

PHRENOLOGY EXTRAORDINARY.

For the most part, the "phrenologists" have heretofore been content to exploit the cranium, but the "orificial surgeons" can "give points" to the disciples of Gall and Spurzheim. In the current number of the *Atlanta Journal-Record of Medicine* there is a delicious editorial on an excerpt from the *Journal of Orificial Surgery*, an entire octavo page of character interpretation based on the inspection of a young school-teacher's vulva, vagina, and rectum, in which latter there were "fine pockets." "All this," says the *Journal-Record*, "because of a pouting vulva and a spiny hymen, a condition which, to the uninitiated, would suggest masturbation, but to the observation of the orificial surgeon indicates extreme force of character. If a sensitive hymen indicates superior mentality, by the same reasoning a urethral caruncle suggests genius too lofty for the finite mind to grasp. 'We have before us material for volumes of thought, out of which should come light to every physician that reads.' Not only that, but what is more to the point, the surgeon, while swabbing out the vagina, might be able to glean from a study of the vulva some notion of the patient's ability to pay." We may suggest that, in the case commented on, the "genitologist," while professing to instruct a class, was in reality endeavoring to impress his patient.

A LITHOPÆDION IN THE BLADDER.

Among the curiosities of extra-uterine gestation is the occasional migration of the fœtus into the intestinal canal or the urinary tract. It is somewhat remarkable that two instances of its penetration into the bladder should have been observed by one surgeon. Hue reported two cases at a recent meeting of the Paris Society of Surgery (*Progrès médical*, July 15th). In each case the fœtus, which had been transformed into a lithopædion, was removed by suprapubic cystotomy.

THE TEMPERATURE OF THE AGED.

It seems to have been the general impression that the temperature of the blood became a little higher in advanced age than in the previous years of life, but Chelmonski (*Deutsches Archiv für klinische Medicin*, lxi, 1, 2; *Deutsche Medizinal-Zeitung*, July 24th) combats this view on the strength of thorough observations of over a hundred persons. Indeed, he finds that the temperature gradually tends to fall a little below what is considered the normal point. Moreover, the type of its diurnal cycle is reversed; it is higher in the morning than in the evening. There is something besides the figurative, then, in "the hot blood of youth."

THE INFLUENCE OF ODORS UPON THE MILK OF COWS.

The *Écho médical du Nord* for July 16th contains an interesting note on this subject. After referring to the well-known powers of milk for absorbing odors which flavor the milk—*e. g.*, those of onion, turpentine, tobacco smoke, etc.—if the milk is allowed to stand in an atmosphere impregnated with them, the *Echo* cites a paper by Dr. Virt from the English *Journal of the Royal Society of Agriculture,* in which instances are adduced where a number of milch cows, having to pass a decomposing calf's body on their road to be milked, apparently imbibed the odor to such an extent as to distinctly taint their milk, and not only theirs, but that of other cows with which they mingled prior to milking. In another case the milk of twenty-five cows was tainted with a horrible odor. On searching for the cause, these cows were found to be pastured near the decomposing body of a horse. In both cases the removal of the carcass sufficed to put an end to the trouble. These observations show not merely the danger of leaving drawn milk in unwholesome places, but the absolute necessity for perfect cleanliness and sanitary environment for milk herds. Further, they suggest the idea that odors may materially influence the vital processes of the body and its secretions, and not merely prove disagreeable sensations and nerve disturbers, and they lend color, moreover, to the material doctrine of the olfactory sense.

ANOTHER SECRET CURE FOR THE DRINK HABIT.

From the *British Medical Journal* for July 29th we learn that a new cure for the drink habit, called the "Hayden Treatment," has recently been launched in Liverpool. It purports to be effected by the use of a certain drug discovered by an Irish-Canadian of the name of Hayden. The institution in which this treatment is carried out has the support of very many eminent names among the laity, and is conducted on original lines, the patients being allowed to enter under assumed names, and not being subjected to any restraint. The table is said to be good, recreations are amply provided for, and alcoholic liquors are supplied to those who do not wish to entirely dispense with them. The cure is said to be accomplished in three weeks, and to be permanent in seventy-five per cent. of the cases; though how this latter deduction can be arrived at, considering the recent period of the introduction of the treatment, is not stated. But worst of all is the necessity, which is emphatically insisted on, of keeping the nature of the drug employed a profound secret. We can only agree with the writer in the *British Medical Journal* that "so long as the nature of the drugs used is kept a secret, the medical profession will look upon the scheme with great suspicion," in this country as well as in England.

POST-CONCEPTIONAL SYPHILIS.

M. Fabre and M. Patel (*Lyon médical,* July 16th) recently presented to the Lyons Society of Medical Sciences photographs of placental sections made in the laboratory of Professor Fochier, from cases of post-conceptional syphilis, contracted in the third, fourth, and seventh months of pregnancy. On the fœtal side of the placenta, periarteritis and endophlebitis were constantly present. In the interior of the villi the cells were less numerous and their nuclei less colored than normally. The external epithelium of the villi was especially affected, being either destroyed or proliferated. On the maternal side the decidua was hypertrophied. Its line of junction with the intervillous tissues, in place of being regularly festooned, formed cones penetrating into the interior of the chorion. The cells of the decidua were rarely normal; they preserved all their proper dimensions, but were separated by a layer of fibrin, or agglutinated together. The membranes themselves were altered; there was a true amniositis, the cellules being irregularly nucleated and strangled, and the fibres of the chorion were separated. In the face of changes such as these, it would seem impossible that a fœtus developed under such conditions could be born free from syphilitic infection.

DEATH IN CONSEQUENCE OF PROLONGED LAUGHTER.

Wachholz (*Przeglad lekarski,* July 1st; *Klinisch-therapeutische Wochenschrift,* July 23d) relates the case of a peasant girl, eighteen years old, who was seized in a field by two fellows and tickled violently on the breast. She died as a result of laughter produced by the tickling. The author explains the occurrence of death from laughing as follows: Laughter consists of an inspiration followed by short and more or less deep expirations. In forcible expiration the abdominal muscles contract and compress the intestines and the diaphragm. Long-continued pressure on the diaphragm acts upon the vagus and diaphragmatic nerves, exciting them and finally paralyzing them. We are not convinced that this is an altogether satisfactory explanation. Certainly the mechanism of death from laughing, if it ever occurs in a healthy person, is worthy to be studied by the physiologists.

GANGRENOUS MASTITIS.

According to H. Roger and Garnier, who recently reported a case of this sort to the Paris Society of Biology (*Gazette hebdomadaire de médecine et de chirurgie,* July 20th), gangrenous inflammation of the breast has not before been observed. Their case was in a lying-in woman who was attacked with scarlet fever. A special micrococcus was found in the pus, similar to micrococci described by the veterinarians as occurring in the mastitis of animals in the course of lactation, but not proved to be identical with any of them.

SYPHILIS WITHOUT A PRIMARY CHANCRE.

Treatment for July 27th quotes from the *Lancet* for May 20th the case of a man who contracted gonorrhœa in January and in March had a roseola, but without any chancre, and subsequently secondary syphilides, followed by sore throat and mucous patches on the prepuce. Comment is made by *Treatment* on the impossibility of a chancre in a man with a freely movable prepuce, as in this case, being missed if carefully looked for, though in women "there is also the possibility of its being hidden away out of sight in some fold of the vagina, and so escaping notice." We should like to know if the patient in this case was carefully explored to ascertain the possible existence of an intra-urethral chancre.

CHRISTIAN SCIENCE AS A PUBLIC DANGER.

According to the *New York Times* for August 16th, Mr. John A. Barnes, counsel for the Illinois State board of health, will undertake an investigation into the death of a girl, eleven years of age, who died from diphtheria while under treatment by a Christian Scientist. Mr. Barnes is reported to have made the following practical remarks: "The most forcible point against these people is that they will go into a room where a child lies ill with diphtheria or scarlet fever, pray for a long time, get their clothing full of the germs of contagion, and then, wholly unfumigated, go straight to the sick-room of some other person suffering from a different trouble. This case, as well as many others, will be thoroughly looked into." We can only add that we think it is about time. Whatever may be said about the rights of individuals to be treated by any means they prefer, there can be no right to endanger the general public by the dissemination of infectious disease.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 12, 1899:

DISEASES.	Week ending Aug. 5.		Week ending Aug. 12.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	43	15	29	12
Scarlet fever	54	5	45	2
Cerebro-spinal meningitis	0	11	0	6
Measles	156	8	4	11
Diphtheria	155	19	104	30
Croup	1	4	0	1
Tuberculosis	150	122	188	169
Small-pox	0	0	1	0
Chicken-pox	8	0	3	0

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending August 12, 1899:

Small-pox—United States.

Louisville, Ky	July 26–Aug. 2	5 cases.	
New Orleans, La	July 22–29	3 "	
Boston, Mass	July 29–Aug. 5	1 case.	
Columbus, Ohio	July 29–Aug. 5	1 "	
Dayton, Ohio	July 29–Aug. 5	1 "	
Spokane, Wash	July 22–29	2 cases.	

Small-pox—Foreign.

Antwerp, Belgium	July 8–22	4 cases,	2 deaths
Rio de Janeiro, Brazil	June 15–30		32 "
Panama, Colombia	July 25–Aug. 1	1 case,	1 death.
Cairo, Egypt	June 24–July 15		7 deaths.
London, England	July 8–15		1 death.
Athens, Greece	July 15–22	11 cases,	3 deaths.
Calcutta, India	June 24–July 1		1 death.
Rotterdam, Netherlands	July 15–22	1 case.	
Odessa, Russia	July 8–22	9 cases,	4 deaths.
St. Petersburg, Russia	July 8–22	15 "	6 "
Erzeroum, Turkey	July 8–15	2 "	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	June 15–30	15 cases.	
Manzanillo, Cuba	July 13–20	1 case,	1 death.
Matanzas, Cuba	July 26–Aug. 2	1 "	(doubtful).
Santiago, Cuba	July 15–22	12 cases,	2 deaths.

Cholera.

Calcutta, India	June 24–July 1		7 deaths

Plague.

Alexandria, Egypt	From outbreak to July 9	65 cases,	32 deaths.
Calcutta, India	June 24–July 1		6 "
Straits Settlements, Penang	Jan. 1–June 30	42 cases,	33 deaths.

Loyalty and Lockjaw.—Under this heading the *British Medical Journal* for August 5th has the following remarks upon the epidemic of lockjaw following Fourth-of-July celebrations: "Americans are demonstrative in their patriotism, and their feelings of loyalty to their flag are apt to find vent in manifestations of which the leading motive is noise. For the proper celebration of the Fourth of July, which is the anniversary of the Declaration of Independence, able-bodied citizens deem it their duty to make the welkin ring with every instrument of acoustic torture, and to shout themselves hoarse and each other deaf with barbaric yells. The day is made still more hideous by the firing of guns and pistols. The general effect is such as sensitive persons get from Hogarth's *Enraged Musician*, multiplied by a figure representing the male population of the United States. What may be the general results of these annual saturnalia of noise to the hearing apparatus and nervous equilibrium of the people can only be conjectured. But on one point definite information is forthcoming. The Fourth of July this year was followed by something like an epidemic of tetanus. Of a hundred and forty-four deaths which occurred throughout the States as the direct consequence of the celebration of the Declaration of Independence, eighty-three were due to tetanus. Of these, twenty-six occurred in New York or its immediate neighborhood. In almost every instance the tetanus was the result of a pistol-shot wound of the hand received on the Fourth of July. The toy pistol, it is said, is responsible for these fatalities, the wad of the blank cartridge penetrating deep into the tissues of the hand, which we hope it is no offense against the majesty of the American people to assume was in most cases not ideally clean. A considerable proportion of the cases were treated with antitoxine, in most instances by means of intracerebral injections. The percentage of recoveries is not accurately known, but it is certain that a large proportion of the patients died. Nearly all these victims of national sentiment were young lads. Their country could doubtless have better spared an equal number of Fourth-of-July orators, and poetic justice would have been satisfied if those voluble persons had been overtaken by lockjaw."

A Bureau for Physicians Visiting Paris.—According to the *University Medical Magazine* for August, Dr. Frederic Gerin Lajoie, an American surgeon resident in Paris, has obtained the necessary authority from the directeur de l'enseignement supérieur and the dean of the faculty of medicine to establish an information office at No. 21 rue de l'École de médecine. His idea is to provide visiting American physicians who come to Paris to study the French systems of practising medicine with every detail of information which would facilitate the object of their stay in Paris.

Change of Address.—Dr. Charles N. Haskell, from No. 391 Allyn Street, Hartford, to No. 343 State Street, Bridgeport, Connecticut.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 5 to August 12, 1899:*

Bailey, Guy G., Acting Assistant Surgeon, United States Army, is assigned to and will report at the United States General Hospital, Presidio of San

Francisco, for temporary duty, awaiting transportation to Manila.

Bath, Thomas, Acting Assistant Surgeon, United States Army, will report to the commanding officer of the United States troops on the transport *Indiana* for duty during the voyage of that vessel to the Philippine Islands and return to San Francisco.

Howard, Deane C., Captain and Assistant Surgeon, United States Army, will proceed to West Point, New York, for temporary duty.

Munson, Edward L., Captain and Assistant Surgeon, United States Army, will report to the commanding officer at Washington Barracks, D. C., for temporary duty.

Raymond, Henry I., Major and Brigade Surgeon, United States Volunteers, will report to the commanding general of the First Division, Eighth Army Corps, for duty as chief surgeon of that division.

Stearns, C. H., Acting Assistant Surgeon, United States Army, will report to the commanding officer of the United States troops on the transport *Indiana* for duty during the voyage of that vessel to the Philippine Islands, and return to San Francisco.

Ware, L. P., Captain and Assistant Surgeon, United States Army, is directed to report to Shafter, William R., Major General, United States Volunteers, president of the army retiring board at San Francisco, for examination.

Woodruff, Charles E., Captain and Assistant Surgeon, United States Army, is relieved from further duty at Benicia Barracks, California, and will proceed to Fort Riley, Kansas, for duty, to relieve Powell, Junius L., Major and Surgeon, United States Army, who will proceed to San Francisco for temporary duty.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 12, 1899:*

Arnold, W. F., Passed Assistant Surgeon. Granted extension of sick leave for one month.

Haas, H. H., Assistant Surgeon. Detached from the *Oregon* and ordered to the Naval Hospital, Yokohama, Japan, for treatment.

Moore, J. M., Passed Assistant Surgeon. Ordered to the *Vermont.*

Pickrell, G., Passed Assistant Surgeon. Detached from the *Baltimore* and ordered to the *Monterey* and to the Cavite Naval Station.

Wright, B. L., Assistant Surgeon. Detached from the *Vermont* and ordered to duty with the Second Marine Battalion for Manila, and, on arrival, to report to the commander-in-chief of the Asiatic Station, for duty.

Promotions.

Berryhill, T. A., and Stone, E. P., to be surgeons.

Streets, T. H., and Waggener, J. R., to be medical inspectors.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending August 10, 1899:*

Brooks, S. D., Surgeon. To proceed to Augusta, Maine, for special temporary duty.

Blue, Rupert, Passed Assistant Surgeon. To proceed to Columbia, Washington, for special temporary duty.

Fricks, L. D., Assistant Surgeon. To report to Passed Assistant Surgeon A. C. Smith for duty.

Todt, W. C., Acting Assistant Surgeon. Granted leave of absence for seven days.

Richardson, S. W., Hospital Steward. To report at Washington, D. C., for assignment to special temporary duty. To proceed to Norfolk, Virginia, and report to Passed Assistant Surgeon A. C. Smith for temporary duty.

Gibson, Frank L., Hospital Steward. Relieved from duty at the Delaware Breakwater Quarantine Station and directed to report at Washington, D. C., for temporary duty.

Comfort, N. C., Hospital Steward. To proceed to Hampton, Virginia, and report to Surgeon J. H. White for temporary duty.

Promotions.

Magruder, G. M., Passed Assistant Surgeon, commissioned as surgeon.

Kinyoun, J. J., Passed Assistant Surgeon, commissioned as surgeon.

Appointment.

Warhanik, Charles A., of Illinois, to be junior hospital steward.

Births, Marriages, and Deaths.

Married.

Young—Gearing.—In Annapolis, Maryland, on Friday, July 21st, Dr. Henry Dudley Young and Miss Jessie Lee Gearing.

Died.

Johnson.—In Huntsville, Alabama, on Wednesday, August 9th, Dr. James T. Johnson, in the sixty-ninth year of his age.

Kemble.—In Salem, Massachusetts, on Monday, August 7th, Dr. Laurence G. Kemble, aged thirty-seven years.

Kortright.—In Middletown, New York, on Monday, August 14th, Dr. James Little Kortright, of Brooklyn, in the fortieth year of his age.

Leighton.—In Brooklyn, on Saturday, August 12th, Dr. Nathan W. Leighton, in the sixty-seventh year of his age.

Obituaries.

COLONEL ANDREW K. SMITH, M. D., OF THE ARMY.

Dr. Andrew K. Smith, who died suddenly on the 14th of August, at Cranston's Hotel, near West Point, New York, was a surgeon of the United States Army, and was retired in 1890 with the title of colonel and medical inspector. After graduation in medicine he was appointed to the house staff of the Emigrants' Hospital, Ward's Island, New York, and in 1853 entered the army as assistant surgeon. Five years thereafter he reached the grade of captain and was promoted to the full surgeonship, with the rank of major, at the beginning of the civil war, in which he served with great distinction. For faithful and meritorious service in that war he was brevetted lieutenant-colonel. Dr. Smith was a large-hearted man, beloved by his many friends in and out of the army. His bereaved widow has the consolation of a loving son who distinguished himself in the army medical staff during the Cuban war.

Letters to the Editor.

THE MOSQUITO AS A VEHICLE OF MALARIA.

Louisburg, N. C., *July 31, 1899.*

To the Editor of the New York Medical Journal:

Sir: I have read with interest recent articles on malarial infection appearing in the *New York Medical Journal.*

I believe this to be a subject of almost universal interest to the profession, certainly not less to us of the South than to others. It is quite an important one, when the question of exterminating malaria is considered.

Noticing the inclination of writers to favor the theory of inoculation by the mosquito as an important mode of infection of the human being, I have wondered how such could be the case when conditions here offer to this method no support as a fact and little as an hypothesis.

Residing here, I speak knowingly of sections of eastern North Carolina (not the extreme east) in which malaria is a formidable foe to health, all types of the disease being seen; yet the mosquito is not troublesome, and rarely does one hear its characteristic buzz. Of course, mosquitoes exist in certain places favoring their development.

To cite an instance of one of our largest southern seaport cities, with which I am familiar: mosquitoes for several months in the year are a veritable pest, but malaria is not a pronounced cause of disease; and many of the inhabitants deny that malarial poisoning may be contracted there (I suppose by reason of the salt air and water). At any rate, the prevalence of the mosquito and that of malaria are by no means proportionate. I might add that the surrounding country is decidedly malarious, and mosquitoes are likewise plentiful, but the inhabitants use surface water for drinking, while those of the city do not.

This latter fact would seem to favor the theory that mosquitoes are responsible for malarial infection through drinking water.

It is not in any sense of argument that I write, but with the hope that in the contemplation of exterminating malaria, facts against as well as hypotheses in favor of inoculation of the malarial organism by the mosquito may be duly considered. Thomas W. Davis, M. D.

CORRECTIONS TO DR. ROSE'S LETTER ON APPENDICITIS, ETC.

126 East Twenty-ninth Street,
New York, *August 7, 1899.*

To the Editor of the New York Medical Journal:

Sir: In my letter of reply to Dr. Ellis, in your issue for August 5th, I notice two errors, which you will kindly permit me to correct: 1. The commas in *Wurm, Fortsatz, Entzündung* should have been omitted. It is a matter of choice to write *Wurm Fortsatz Entzündung* or to combine these three into one word. You may write *Hof Rath* or *Hofrath.* Foreigners are in the habit of complaining of long German words—that is, of combinations like the one under consideration—such combinations are characteristic of German and of Greek, and are looked upon as special advantages of these two languages. 2. It should read ἀστυατρός, and not ἀστυιατρός. A. Rose, M. D.

232 East Seventy-eighth Street,
New York, *August 7, 1899.*

To the Editor of the New York Medical Journal:

Sir: I wish to call the attention of the readers of your valuable paper to the fact that the vocative of the Latin word doctor is doctor, not doctore. The latter form I find in Dr. A. Rose's letter in the *Journal* of August 5th, in the exclamation, "*Si tacuisses, Doctore!*" This grammatical lapsus has to be corrected for the very reason that it seems to come from an eminent linguistic reformer whose example might be imitated. Should the mistake have happened in your office, I beg our esteemed colleague's pardon.

Max Talmey, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XXXII.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(*Continued from page 244.*)

Right to Perform Autopsy.—Somewhat analogous to the right of the surgeon to operate upon a patient is the right of the physician to perform an autopsy, except that, from the nature of the case, the consent of the subject can not be gained in the latter class of operations.

Upon the legal status of a dead body there is an almost confusing wealth of legal lore coming down to us through the English courts from the early days of Christian England. The burial of the dead in churchyards in England is supposed to have been introduced by Cuthbert, Archbishop of Canterbury, in the year 750. Whereupon the protection and control over the repose of the dead gradually passed from the authority of the secular courts to that of the ecclesiastical tribunals. The secular courts, being deprived of all authority over the dead, looked upon the cadaver as not being the subject of a property right, but confined themselves to the protection of the monument and other external emblems of grief erected by the living. Lord Coke, chief-justice of England, expressed this condition in the learned and ponderous style of his time as follows: "It is to be observed that in every sepulchre that hath a monument two things are to be considered—viz., the monument, and the *sepulture,* or buriall of the dead. The buriall of the *cadaver*—that is, *caro data vermibus*—is *nullius in bonis,* and belongs to the ecclesiastical cognizance; but as to the monument, action is given, as hath been said, at the common law for the defacing thereof." *

That adequate protection to the dead is necessary is too obvious to permit of discussion; and as the ecclesiastical court is unknown to our government, the functions which in England vested in that court must here be exercised by our courts of law.

In exercising these functions relative to the subject under consideration, they have, perhaps with a single exception, in respect to the learned precedents of the English courts, refused to hold a dead body as strictly property, yet they recognize and protect the right of the relatives of a deceased person to the custody and control of the body.

The relatives in whom this right vests are, first, the husband or wife of the deceased; second, if no husband or wife survives, then the children; third, if there is no husband or wife and no children, then, first, the father, second, the mother; fourth, after them the brothers and sisters of the deceased; fifth, after them the next of kin, according to the course of the common law, to the remotest degree, according to the law of descent of personal property.

This right involves and carries with it a duty; more particularly, it is both a right and a duty: a right to the custody, care, and protection of the body of the deceased from the moment the breath leaves it, and the duty of according to it decent Christian burial.

In referring to this right, in the case of Foley *vs.* Phelps,† Justice Patterson said: "The right is to the possession of the corpse in the same condition it was in when death supervened. It is the right to what remains when the breath leaves the body, and not merely to such a hacked, hewn, and mutilated corpse as some stranger . . . may choose to turn over to an afflicted relative." In this case the question arose, for the first time in New York, whether one performing a post-mortem examination without the consent of the widow of deceased was liable to her in damages. The court in a learned and elaborate opinion examined the law and the principles applicable to the case, and came to the logical conclusion that whenever the widow's "right to the possession of the corpse in the same condition it was in when death supervened" was violated, such violation furnished a ground for a civil action for damages.

Practically the same question had arisen in the case of Larson *vs.* Chase,‡ in which the court not only held there was a cause of action, but that mental suffering caused by the unlawful act was a distinct element of damages.

In the case of Burney *vs.* Children's Hospital,* a father placed his child in a hospital for treatment; the child died, and a post-mortem examination was performed without his consent. The father brought suit against the hospital for damages. The court, following the reasoning of the former decision, said: "The father, as the natural guardian of the child, was entitled to the possession of its body for burial. Being entitled to the possession of the body for the purposes of burial, is not his right against one who unlawfully interferes with it, and mutilates it, as great as it would be if the body were buried in his lot, and was thence unlawfully removed? That an action may be maintained in the latter case we have already seen, and we are of the opinion that it may be in the former."

As both reason and justice commend the conclusion arrived at by these courts, there can be no doubt that the precedents will be followed whenever the question arises, and that a physician who performs an autopsy without the consent of the person having the right of custody of the deceased, does so at his peril.

There are, however, cases in which such operations may be performed without consent and yet no liability exist; these cases are where the post-mortem is performed in accordance with the directions of law. The statute law of most States provides that whenever a person is found dead, and the cause of his death is not apparent and can not be ascertained from the evidence given or from a superficial examination of the body, the coroner shall order an examination to be made. Such an examination, to be safely made, requires no consent from the relatives of the deceased, for it is sanctioned by positive law. An interesting case of the sort is that of Young *vs.* College of Physicians and Surgeons of Baltimore City.* In this case the deceased, who, in coupling cars, sustained a severe injury to his right leg, it being mashed below the knee and almost severed from the body, was taken to a hospital, where he died next day. The evidence showed that the deceased was a strong, stout man, and of good nerve. A fellow-laborer testified that he had worked with deceased five years, during which he had lost no time. After the death a post-mortem examination was ordered by a Dr. G., a coroner, and performed by a certain Dr. K., both of whom were made defendants to the suit. Evidence was offered on the part of the plaintiff for the purpose of showing that the post-mortem was without the widow's consent; that the body was wantonly cut, mutilated, and disfigured, and the feelings of the relatives of the deceased were inhumanely outraged.

On behalf of the defendants it was shown that Dr. G. was a coroner, and that Dr. K. was medical examiner, appointed by the board of health; also that the post-mortem was ordered by Dr. G. as coroner. Dr. G. testified that he ordered the autopsy because he wished to know the cause of death; that it had been reported to him that the man's leg had been cut off by the train and that he had died within thirty-six hours after he was brought to the hospital, that he did not think the loss of the leg in this way sufficiently accounted for the death, and that he could not give the death certificate without having a post-mortem. Dr. K. testified that he did not think in the majority of cases persons in ordinary health, when the leg was crushed below the knee, would die from shock. A certain expert testified that if a healthy man should have his leg crushed off, he would not think it a sufficient cause to explain the death, and in such case, if his official duty required him to give a death certificate, he would make every effort to obtain a post-mortem; and that it was so unusual for a death to occur from accident under the conditions surrounding the deceased that other explanations were more probable. Another expert testified that when a man's leg is cut off below the knee, and he dies within thirty-six hours after the injury, the accident would not be an entirely satisfactory explanation of the death, if the man was ordinarily healthy and muscular; and, if he was required to determine definitely the cause of death in such a case, he would not consider that he had done his duty without having an autopsy. Dr. K. described his proceeding in making the autopsy—the taking out of the brain, the opening of the body, the removing and cutting into the different organs, the liver, spleen, kidney, lungs, and heart. He testified that an examination of all the vital organs was necessary to determine the cause of death; that the cause of death was persistent heart shock; that deceased had fatty kidneys and fatty degeneration of the heart; that the injury itself was not of such a nature as to have caused persistent heart shock, unless there was something else besides the injury that helped to produce it. Expert evidence was also given to the effect that a complete examination could not be made without removing and opening the brain.

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* Third Inst. (Coke), 203.

† Foley *vs.* Phelps, 1 App. Div., 551.

‡ Larson *vs.* Chase, 47 Minn., 307.

* Burney *vs.* Children's Hospital, 169 Mass., 57, 38 L. R. A., 413.

* Young *vs.* College of Physicians and Surgeons of Baltimore City, 81 Md., 358, 32 Atl. Rep., 177.

In the city where the present case arose the law provides that "when any person shall die in the said city it shall be the duty of the physician who attended during his or her last illness, or the coroner, when the case comes under his notice, to furnish within forty-eight hours after death . . . a certificate setting forth as far as the same can be ascertained . . . the cause, date, and place of death." In summing up the conclusion of the court in this case, Justice Roberts said: "The evidence before us exhibits the case of a public officer, whose duty it is to find out and certify the cause of a death which is brought to his notice. The accident preceding his death, and disabling him, is not, in his opinion, sufficient to cause the death of a healthy person. There must, therefore, as he thinks, be some diseased condition of the injured man which contributed to bring about this result. His opinion is shared by other reputable physicians who have testified in the case. He could not honestly and conscientiously give the certificate which the law required him to give unless he made proper inquiry into the case. In his judgment, and in the judgment of the professional witnesses, proper and sufficient inquiry could not be made without an autopsy. So far as the evidence in the case shows, or any rational inference from it, the coroner did simply his plain and positive duty in ordering the autopsy. And the medical examiner, Dr. K., was equally obliged by his duty to obey the order of the coroner."

Under the law quoted above, in compliance with which the coroner directed the post-mortem examination, no reason can be detected why the attending physician might not with equal right and justification have conducted the examination in the coroner's absence. A case involving this particular question arose in Denver not many years ago. There a law was in force similar in effect to the one above quoted, which required the physician to give a certificate of death before a burial permit could be obtained. In this case the deceased was stricken dead while riding in a carriage, and was taken to an undertaker's to be prepared for burial. While there, deceased's regular attending physician was applied to by the undertakers for a death certificate, whereupon he performed a post-mortem. Suit was commenced against the undertakers and the physician, but the court held that they were not liable. Justice Richmond, in his opinion, said: "I think that the evidence discloses circumstances which would warrant any physician in declining to issue a certificate designating the cause of death, and permitting burial, without a post-mortem examination. It is true that the physician may have had a belief as to the cause of death, but the circumstances under which death occurred warranted him in hesitating to give the certificate required by the ordinance of the city of Denver in this case. This being so, and the proofs showing conclusively that the body was not mutilated, and that the autopsy was performed in a decent and scientific manner, with due regard to the sex of the deceased and the feelings of all parties interested, I can not conceive what possible damages could be proved to a jury." *

The matter may be summed up as follows: An autopsy performed with the consent of the relative who is entitled to the custody of the dead body can never be questioned if properly performed. Such an operation, when performed under direction of law, is never subject to legal punishment, yet the existence of the two cases last examined should be a sufficient reason to convince the cautious practitioner of the advisability of always securing such consent when possible. Where consent is withheld, and the physician feels that a conscientious performance of the duty before him requires that a post-mortem examination be made, he should, in furtherance of his own safety, turn the case over to the coroner, or at least act under the direction of that officer.

(To be continued.)

Pith of Current Literature.

Mental Healing, Regular and Irregular.—Dr. J. T. McColgan (*St. Louis Medical Era*, July), in an excellent article, says that the broad denial that the various systems of psychic healing at present in vogue are not curative, and the assertion that the results reported are fabrications, delusions, and frauds, are not entitled to be denominated skepticism, but gross ignorance. The instances are too many to be simply coincidences, and the standing of many of the psychic therapeutists too high to justify their being denominated frauds. That there are charlatans practising this new system goes without saying; but what great discovery has the world ever known that these harpies failed to seize upon as a means of exploiting their fellow man? Whether Liébault's theory of suggestion, which is the most plausible hypothesis is true or not, these facts are beyond all cavil:

1. Through the mind the circulation can be controlled to a very great extent, the heart beats made to vary fifteen per minute on each side of the normal standard.
2. The temperature may by the same means be made to vary five to eight degrees on each side of the normal.
3. All the vegetative or automatic functions may be modified or increased in the same manner.
4. Pain may be arrested and total anæsthesia, local or general, may be induced.
5. One function may be inhibited without interfering with any other; as by contracting the pupil of one eye, leaving the other normal; or contracting one and dilating the other.

Of course, all these can not be produced on every subject to their fullest extent, but a sufficiently large percentage can be so influenced to establish the fact that there is a power in the mind which is capable of producing these results; and the failures are more probably due to our want of knowledge in exciting it to action than to the fact that some minds are destitute of the power. The writer has had several years' experience with suggestive therapeutics, and one fact stands out in bold relief in his experience, and this fact is that different minds require different methods to insure suggestion exercising any power over the physical processes of the organism. One will readily receive incidental suggestion by the administration of a placebo, but will ignore suggestion during hypnosis. Another, on whom neither placebo nor medicine will have any effect, will be perfectly amenable to hypnotic suggestion. Still another class will receive any kind of suggestion given in any manner whatever. One class will hold a suggestion for a longer period than others; and this class is not the one most readily influenced, but the reverse. The failure to make a suggestion effective arises from a failure to command the subjective attention of the patient, and one method will attract this attention when another will fail. Disease is largely due to morbid self-suggestion arresting the natural resistance offered by the organism to deleterious substances. It is the natural function of all living organisms to throw off deleterious matters, to repair waste tissues and injuries of every class; but if all the force of innervation is concentrated on the effects or on anything else whatever, these functions will be ill performed or not performed at all.

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* Cook *et al. vs.* Walley *et al.*, 1 Colo. App., 163; 27 Pac. Rep., 950.

As a very marked result of psychic therapeutics take an anæmic or chlorotic girl about the period of puberty. Here the whole power of innervation is expended on the generative sphere. The sexual organs, just maturing, command the exclusive attention of the organism, and digestion and assimilation suffer. Now, by distracting this unconscious attention from the sexual organs by suggestion, the hyperæsthesia of the sex centre is relieved; the innervation thus liberated goes to increase nutrition, and the patient rapidly recuperates. In the author's experience these cases are invariably relieved by suggestion in one sixth of the time that is required under the most favorable circumstances with tonics.

What is termed "magnetism" is suggestion enforced through the sense of feeling or touch by stimulating the peripheral nerve endings. This is a more powerful nerve stimulant than any we have in our materia medica, and is wholly mechanical in its nature. You take a healthy, robust individual of either sex, confine him or her on a couch, and tickle the bottoms of the feet for three hours, and you have a fit subject for a lunatic asylum. Hard or rough contact with these nerves does not produce this effect, but rather the contrary; sensation is deadened or obtunded instead of excited. Now, modify this tickling until it is barely perceptible, and a most delicious sensation is produced; and actual contact is unnecessary to produce it—atmospheric waves coupled with psychic suggestion is all-sufficient. Tickle a boy or girl until he or she can not control their risibility and you may keep it up indefinitely by the mere motion of your fingers. Now, in what is termed "magnetic" healing you employ two forces synergistic, as we say of medicines, to each other: one psychical and one mechanical. The mechanical, to use a strong term, "presses the button and suggestion does the rest." In precisely the same way we often "press the button" with a granule, a tablet, or an "elegant," much-advertised pharmaceutical preparation, and then we give all the credit to the material thing we *see* and wholly ignore the force we don't see.

"Christian Science" is suggestion enforced by or through the emotion of religion; the dogma of the unreality of matter and the consequent unreality of disease not playing the slightest part in the cures, as the following case will show. The author had a patient with torpid bowels which would only act after large doses of purgatives re-enforced by enemas. He was a materialist of the strictest sort, skeptical on everything from religion to science, and took pride in disbelieving everything he heard or read; one of those characters that would argue and dispute with a mile-post about the distance to the next town, even if he had never traveled the road before. After satisfying himself of his patient's physical condition, the author commenced a conversation in which he reversed the usual oration of the Christian Scientist. "Matter," he said, "is everything, and mind only the result of the transformation of material molecules of matter; without a material brain there can be no mind, and the creature can not possibly influence the creator. Now, I am going to convince you of this fact in a way that you can not fail to understand," and he took a phial from his case. "Here is an alkaloid from the most powerful purgative known to medical science; so powerful in its action that only one fiftieth of a grain is the maximum dose. I am going to move your bowels with this tablet to-night. Now, you concentrate your mind against it with all the power you possess and see if it does not act, notwithstanding your mental resistance." Dr. McColgan gave him one of Parke, Davis, & Co.'s sugar-of-milk placebos and he had three copious actions from his bowels as the result. Unknown to the patient, the doctor had concentrated the patient's attention on the alimentary canal; this innervation increased glandular secretion and peristalsis, with the natural result. Had the patient been assured that the doctor would move his bowels by operating through his mind, self-suggestion would have prevented the suggestion being entertained; but by this ruse self-suggestion was turned to the purpose it was desired to accomplish.

Osteopathy is suggestion emphasized by massage and manipulation. You might manipulate a patient for a week without his knowing that it was for the purpose of alleviating his disease, and there would be no more result than from any other exercise.

In all kinds of psychical therapeutics we must remember that the theory of the healer has nothing whatever to do with the results achieved; that the patient in reality cures himself, and the influence of the system only places him in that condition of passivity where natural processes have fair play and undisturbed action. From the author's experience in treating anæmia by hypnotic suggestion he is led to believe that there is a brilliant future for this treatment in that class of diseases where faulty nutrition is the dominant feature. Cell nutrition is one of the physiologic processes on which we have vague and perhaps erroneous views. When we come to fully comprehend the part which innervation plays in nutrition, when we cease directing our therapy so much to results and looking more at the cause, we may find it just as simple a matter to control the malnutrition which initiates consumption or cancer by suggestion as it is to arrest a headach or neuralgia.

Syphilis and Scrotal Cancer.—Dr. A. Patterso (*Scottish Medical and Surgical Journal,* August), in paper read before the Glasgow Eastern Medical Society on Some Phases of Syphilis, relates the following case: A consultation was called in the infirmary one morning. Our worthy colleague explained, apologetically, that the case was simply one of sweeps' cancer, and that the consultation was only a formal matter. There was no dissentient voice. Operation was performed, and the part removed was sent as usual to the pathological department. After microscopical examination the disease was declared to be epithelioma beyond a doubt. When the wound was almost healed the disease reappeared and began to spread, necessitating a second removal. It had reached the healing line when it again opened up, and now adhesion to the testicle led to castration. This time everything went well so far that the wound was healed just to a point, and as my colleague was going off on his holidays, the man was dismissed. The patient belonged to the East End, and it so happened that in less than three weeks I was asked to see him. Once more the wound had spread, and I was requested to operate. It looked a hopeless business, however I did it, taking as wide a margin as possible. Like all the preceding operation wounds, it stopped ere the healing point was reached. Fairly puzzled, I had never known a case of epithelioma conduct itself in this manner, and yet the microscope declared it to be that "without doubt."

Risking a question, "Were you ever in the service, my man?" "Yes, sir, I fought through the Crimea." He was put on five grains of the iodide and five of the tartrate of potassium. The wound healed rapidly, and the man remained in good health for ten years, when I lost sight of him. Naturally, this case shook my faith in the microscope. There can be, I fancy, little doubt that many of the cases of so-called chimney sweepers' cancer, which have been operated on as such, were in reality tertiary syphilis.

Calomel in the Treatment of Conjunctivitis.—M. Poukaloff (*Presse médicale*, June 24th; *Medicine*, August) thinks that calomel will meet the same indications as nitrate of silver in ophthalmia neonatorum, for which the latter drug is considered almost a specific, and that it has not the same inconveniences. The conjunctivæ should be carefully cleansed with a solution of boric acid and then dried with tampons of cotton, and the calomel carefully dusted over the mucous membrane in a thin layer. The method is applicable among the poor, as it requires to be repeated but once a day, and in the vast majority of cases is followed by a prompt amelioration of the symptoms, the duration of many of the cases not exceeding seven days; and even in those that were chronic and severe, recovery has been noted in fifteen days. The author's observations are based upon fifty-seven cases of ophthalmia in which gonococci were noted in the discharge.

A Simple Method of Examining Stomach Contents.—Dr. W. H. De Witt (*British Medical Journal; Maryland Medical Journal*, August 5th) records the following novel device for securing a small quantity of the contents of the stomach for examination: "Take the long end of a largest size empty capsule; into this crowd or condense as much as possible of fine sponge, to which is attached a fine silk thread of sufficient length. The capsule is then closed and the patient allowed to swallow the same. After sufficient time has elapsed for the capsule to dissolve, the sponge is removed by the string. The sponge will be found to have absorbed a sufficient amount of gastric contents for all practical purposes. In this way tests can be made for free hydrochloric acid, or, indeed, for anything else that may have been taken into the stomach. This method is original with me; I do not know whether others have used the same device or not. It will, I am quite sure, be found a very convenient and practical method. Several capsules prepared in the same manner and swallowed would furnish a sufficient quantity of gastric juice for any and every purpose."

A Case of Human Rumination.—Dr. Luther C. Peter (*Medical Mirror*, August) records a case of rumination in a boy nine years of age, and offers the following conclusions: 1. Rumination is a neurosis, associated with a profound neurasthenic condition or idiocy. 2. It is not, as a rule, associated with a diverticulum or dilatation of the lower end of the œsophagus, but is primarily a stomach neurosis. 3. It may at times be hereditary. 4. It occurs more frequently in males than in females. 5. It is usually within the control of the will. 6. The prognosis as to cure is good.

Euphthalmine as a Mydriatic.—Dr. H. Darier (*Clinique ophthalmologique*, April; *Therapist*, July 15th) reports that since he began to use euphthalmine for ophthalmoscopic examinations he has never observed any of the unpleasant symptoms so frequently met with after the use of other mydriatics. The patients have never complained of any inconvenience except a slight dimness. The same evening, the euphthalminized eye has always returned to its normal state. This agent is recommended to be employed in doubtful cases, where it is desired to ascertain if one has to deal with an iritis. If there is really iritis, atropine will have no ill effect; but if, on the contrary, the case is one of simple circumcorneal hyperæmia, etc., one will have caused eight or ten days of paralysis of accommodation, whereas if dilatation had been effected with euphthalmine in a rapid, regular, and complete manner, quite as accurate a diagnosis could have been made without causing any of the inconveniences following the use of atropine. He uses one or two drops of a five-per-cent. solution.

The Ambulant Treatment of Fractures of the Lower Limb.—Dr. C. W. Cathcart (*Scottish Medical and Surgical Journal*, July) says that the expression "ambulant" does not exactly indicate the sense in which the "walking about" treatment of fractures is intended to be taken. It does not merely mean that the patients are to walk about while the treatment of the fracture is going on. This would be true of almost all fractures of the upper extremity or of those of the lower limb if the patient were using crutches, but it means that the broken limb is itself to be used for walking upon during the time that the union is taking place. The mechanism by which this can be accomplished will be easily understood, especially by those who know the principle of Thomas's knee splint or who have studied the various ways in which an artificial limb can be made to take its "bearing" at some part of the limb above the face of the stump. In all these cases the weight of the body is transmitted from the ground past the tender area to some point above. The "bearing" point, for instance, might be the enlarged portions of the tibia and fibula below the knee, the muscles of the thigh as they thicken upward toward the hip, or the tuberosity of the ischium and neighboring parts of the pelvis. In the case of Thomas's knee splint iron is used, and in artificial limbs the material is generally wood. In either case the necessary fitting must be carried out by a skilled workman. The great advantage, however, of plaster of Paris is that, since it is put on while soft, it adapts itself perfectly to the part on which it is to have a "bearing," and yet, after it has set, it is strong enough to transmit the body weight, and will also last sufficiently long for the healing of the fracture. It is at the same time very cheap and requires no more skill in application than may be expected from any member of the medical profession.

There are many different ways in which the details of the ambulant treatment may be carried out. The method has been applied to fractures of the thigh as well as to those of the leg. Let us take the case of simple fracture of one or both bones of the leg in the lower two thirds without any very marked shortening. Although many would apply the "ambulant" dressing at once, the author would prefer to wait until the swelling had subsided. Massage, in the form known as "effleurage," will greatly hasten this, and in two or three days the parts will be ready for the permanent splint. During the interval the injured limb must of course be steadied with a "box," "Cline," "Mackintyre," or any other splint which the surgeon may be accustomed to use.

When the limb is ready the surgeon will require—

1. Plaster-of-Paris bandages. The best material for these is open bleached gauze, such as is in constant use in surgical wards for packing cavities or for making artificial sponges with, etc. "Butter-cloth" answers very well. The starched gauze called "crinoline," often recommended, is not nearly so good as soft white absorbent gauze, and a closely woven bandage, whether absorbent or not, is useless for plaster bandages, as any one will find who tries it. The simplest way to get ready a number of bandages is to take a "piece" of the gauze about three yards in length and roll it up evenly on a table, then with a sharp knife cut it into sections some three inches and some four inches in breadth. It will be well to have at least about eighteen of each size ready. They have next to have the plaster of Paris worked into them. Take a quantity of freshly baked plaster of Paris in a bowl; spread a newspaper over a flat table or board; now lay one end of the bandage on the table, and, having sprinkled plaster freely over it, rub it in with the hand; roll up *loosely* with the fingers the part of the bandage thus treated, and proceed with a new part, which is to be in turn rolled up. Repeat this until the bandage is finished. Lay it carefully aside so as not to shake out the plaster, and proceed in a like manner with the rest.

2. A pad of cotton wool an inch and a half to two inches in thickness, to fit under the sole of the foot. This pad is the special feature of the method. When the patient's weight is put upon the splint this pad becomes compressed, and the pressure thus prevented from reaching the sole of the foot is carried up the sides of the splint to the "bearing" point above the seat of fracture. In other words, the patient walks on the "bearing" point.

3. Flannel or domet bandages, some spare cotton wool and gauze.

Two assistants are required in order to hold the leg in position. Some think that the foot should be steadied with the fingers of the assistant; some prefer to apply pieces of gauze, one to lift the heel, one to produce extension. These are afterward included in the bandage. The surgeon begins by fixing the pad of cotton wool to the foot with a domet bandage; in so doing he may with advantage fill up the hollow *below* the malleoli with cotton wool so that the plaster bandage can not carry the malleoli upward when the patient is walking. The domet bandage is then carried evenly up the limb and extends a little beyond where the plaster of Paris is expected to come. This bandage is to act as padding; some apply the plaster of Paris next the skin, and some put on a thin layer of wool; the flannel or domet bandage, however, seems to the author preferable to either of these methods. When the limb has thus been prepared for the plaster-of-Paris bandages they are placed in a pail of water, one or two at a time. Each must be laid vertically—*i. e.*, with one end of the roll at the bottom and the other toward the surface—to allow the air bells to escape as the water sinks in. As it is taken out, the bandage is gently pressed to get rid of the superfluous water, and it is then ready to be applied to the limb, which is now being held in position for the purpose. Experience has shown that the plaster case is especially apt to give way on the sole and at the ankle, and at these places an extra number of turns must be put on. The sole is thickened by bringing the bandage many times backward and forward from the toes to the heel with occasional turns round the foot to keep these in position. When this part has been well begun the bandages should be carried up the leg, taking care to avoid creases and wrinkles in the deeper parts, and especially just below the knee, where the weight is to be borne. As the knee is to be left free to bend, the bandage must either stop short of the back of the knee or, if carried up there at first, it must be afterward cut away behind; the first method is easier and is quite as efficient as the second, although some prefer the latter. The bandages are then laid on layer after layer until it is about nine ply thick all over, and about twelve or fifteen at the ankle and on the sole. The splint must be as tough and light as possible, therefore the various layers should be rubbed in upon one another, but no extra plaster should be added beyond what is incorporated in the fibre of the gauze—*i. e.*, no masses or lumps of plaster between the layers. When the required thickness has been reached the surgeon should see that everything fits nicely about the knee; there should especially be no pressure on the popliteal space, and the color of the toes should be looked to. If necessary the bandage can be pulled outward from the popliteal space and pressed in to fit the bones exactly, while it is still soft. In about ten minutes the plaster will have set, but it is much better not to put any strain upon it until it is quite dry. It is therefore safer to keep the patient in bed for twenty-four hours, leaving the splint exposed to the air and hastening the drying with hot water bottles. At the end of this time the patient gets up and begins to walk, using his leg, now incased in the splint, for the purpose. At first, of course, he can only limp and needs support, but before long he can move about with comparative freedom. A cover of felt or leather should be made to protect the case as much as possible from tear and wear. The weight of the appliance, the rigidity of the foot, and the increased length of the limb caused by the foot pad, all taken together, make some patients despair at first of being able to walk with the splint; but in a few days they get used to the new condition of things, and in about a week they can move about with surprising activity and freedom.

The splint is allowed to remain on until the fracture has had time to consolidate. When it is removed the condition of the limb is carefully examined, and if union has taken place the patient is encouraged to use the leg more and more.

The results obtained by this method have been most satisfactory, and perhaps one of the best proofs of this may be found in the fact that it has been largely used n America.

Resection of the Cervical Sympathetic in Glaucoma.—Dr. James Moores Ball (*Interstate Medical Journal*, July) translates *in extenso* the article on this subject by Professor Thomas Jonnesco in the *Wiener klinische Wochenschrift* for May 4th. Professor Jonnesco concludes his article as follows:

"The operation may be divided into four stages:

"1. The cutaneous incision begins at the upper ngle of the inferior maxilla and extends along the nterior border of the sterno-mastoid.

"2. The anterior border of the sterno-mastoid muscle is freed. After cutting the skin, superficial cervical nuscles, and superficial fascia, the anterior border of he sterno-mastoid is freed by means of a grooved director and the muscle is drawn outward and backward by a retractor; by a grooved director the deep layer of the aponeurotic sheath of the muscle is cut and then a second retractor is used on the inner lip of the wound, to draw the larynx inward. This brings the operator to he bundle of vessels and nerves.

"3. The identification, separation, and exsection of he superior cervical ganglion. After the anterior wall of the vascular bundle has been cut, one aims to draw he internal jugular vein outward and the internal carotid artery and vagus nerve inward by means of retractors. In the space thus made one finds the superior cervical ganglion easily; then by means of the grooved director the deep wall of the carotid sheath and the prevertebral fascia are opened. Isolated by means of he director and seized with forceps, the ganglion is ollowed from below upward. Then by means of the ndex finger it is carefully separated from the surrounding structures and all afferent and efferent fibres are ut by means of blunt curved scissors. When this is accomplished, the ganglion is attached only by the nerve trand which forms its continuation above; a strong pull is made, and the ganglion is torn out. A cut is nade below, and the excision is completed.

"The operation described makes the complete removal of the ganglion possible; it is bloodless, and permits the fibres of the superior cervical plexus and the external branch of the spinal accessory nerve to be pared.

"4. Closure of the wound is divided into two steps: irst, the border of the sterno-mastoid is united to the eep cellular tissue by means of three or four catgut utures; the superficial part of the wound is closed by neans of fine catgut. The wound is not drained.

"The bilateral operation can be made in fifteen ninutes. The results of the operation are trifling; the andage is removed on the sixth day. Union is ideal nly if an aseptic operation has been made.

"After the operation one observes congestion of the onjunctiva of the eye, the nose, lacrymation, considerable nasal secretion, heaviness of the head, all of hich phenomena immediately disappear on the first ay. The remaining effects upon the eye are contraction of the pupil, sinking of the eyeball in the orbit, drooping of the upper eyelid, and narrowing of the palpebral fissure.

"The therapeutic results are an immediate reduction of intraocular tension; there follows immediately, or within a few days, an improvement in vision, which increases from day to day. The periorbital pain and headache disappear. Frequently after the operation these patients complain of a heaviness in the head, which is probably to be attributed to the removal of the ganglion producing congestion of the brain, which should not be confounded with the glaucomatous pain. In many cases a slight dysphagia appears after this operation, and during chewing there is pain in the cranio-mandibular articulation, which are unimportant symptoms, as they soon disappear completely.

"In conclusion, it is clear to me that the following propositions are true:

"1. The importance of the cervical sympathetic in the production of glaucoma, with the exception of the hæmorrhagic form, is evident from these operations.

"2. The sympathetic nervous system of the eye is continuously or temporarily irritated from the centre, or from a centre in the trunk of the sympathetic of the eye.

"3. The resection of this ganglion through which all the fibres pass paralyzes them and annuls all ocular effects depending upon them.

"4. One can argue about the mechanism of post-operative hypotonia, but the fact remains undisputed.

"5. The best results are to be expected in those cases in which inflammation and irritation are not present or are not strongly marked.

"6. Since the undertaking is by no means serious, one must attempt this operation in all forms of glaucoma, even in those accompanied by severe pain, cases of absolute glaucoma, where the pain has a tendency to disappear after the operation. The improvement of symptoms occurs at once after the operation or later; in all cases it is progressive.

"7. This operation can be successful even in those cases in which, in spite of previous iridectomy, the disease progresses—*i. e.*, in all cases in which the well-known operation guarantees no effect.

"8. The occurrence of Basedow's disease and glaucoma at the same time, as in one of our cases, speaks for the influence of the permanent irritation of the cervical sympathetic wholly or only partly upon the occurrence of glaucoma. The resection of the cervical sympathetic cures Basedow's disease, a disease caused by the permanent irritation of these nerves. The removal of these nerves brings about the disappearance of these disturbances."

The Relation of Chronic Nephritis to Malarial Disease.—Dr. C. W. Larned (*Johns Hopkins Hospital Bulletin*, July), in a paper on Chronic Malarial Nephritis containing a minute report of a case, says that the conclusions to be drawn from this and other cases already on record, especially Thayer's and those of Kelsch and Kiéner, are: 1. Certainly in some localities malarial fever should be given a prominent position in the ætiology of chronic as well as of acute nephritis. 2. In all cases of malarial fever the urine should be closely watched. 3. A blood examination should be made in all cases of nephritis occurring in those who have visited or lived in a malarial district, as it often happens that the severe grade of nephritis resulting may mask entirely the clinical picture of malarial fever.

Arsenite of Copper in Cerebro-spinal Meningitis.—Dr. Louis Kolipinski (*Maryland Medical Journal*, July 29th) records a series of cases consisting of three children and one adult in which the following routine treatment was successfully used: 1. Quiet, by excluding, as much as possible, persons, light, and sound from the sick-room. 2. A simple milk diet, with drinking water whenever desired. 3. Daily movement of the bowels by enema or castor oil. 4. The arsenite of copper for the first and second days every half hour while patient was awake; with improvement in the symptoms the intervals of dosage were prolonged to every one or two hours on the third day, every two or three hours on the fourth day, till with apparent convalescence the remedy was discontinued. In addition a tepid bath was recommended should the fever rise suddenly and high.

For children the formula employed was:

℞ Arsenite of copper .... $\frac{1}{100}$ grain;
Distilled water .... 3 ounces.
M.

The phial to be shaken. One teaspoonful every half hour.

For adults:

℞ Arsenite of copper .... $\frac{1}{10}$ grain;
Distilled water .... 4 ounces.
M.

Shake the phial. One teaspoonful every half hour.

Stricture of the Œsophagus from Corrosives.—Dr. W. J. Mayo (*Journal of the American Medical Association*, July 29th) thus concludes a paper on this subject read before the meeting of the American Medical Association: 1. Systematic sounding should be commenced in from two to four weeks after the swallowing of a caustic substance. 2. Should the traumatism be severe, immediate gastrostomy will lessen inflection and hasten cicatrization, sounding being carried on as before. 3. Non-dilatable strictures in the vicinity of the cricoid cartilage should be divided by external œsophagotomy. 4. Stricture above the arch of the aorta may be safely cut by a combined internal and external œsophagotomy. 5. Dense thoracic strictures are best dilated by Ochsner's method, and, if necessary, divided by Abee's string saw. 6. Impassable strictures should be treated by retrograde dilatation. 7. A dilated stricture should be occasionally sounded for years, if not for life.

Peritonsillar Abscess and Rheumatism.—Dr. Frederic C. Cobb (*Boston Medical and Surgical Journal*, July 27th), in a paper read before the American Laryngological Association, as the result of an examination of forty-four cases, concludes that: 1. No causative relation could be proved to exist between rheumatism and peritonsillar abscess. 2. An acute inflammatory condition of the tonsil was found to exist in a sufficient number of cases to suggest that it might be the cause of the infection to the peritonsillar tissue. 3. A study of the pharyngo-maxillary space shows: (*a*) that its injection with wax on the cadaver may produce an appearance similar to the peritonsillar abscess as seen clinically; (*b*) that its distance from the surface of the palate may account for the depth of the puncture often needed in order to obtain pus; (*c*) that the cross action of the muscles covering the space seems a sufficient reason for the closure of punctures made into it; (*d*) that the supratonsillar fossa and the infratonsillar space offer the surface for puncture most free from anatomical obstruction; (*e*) that puncture anterior to a plane passing through the posterior pillars can not injure the great vessels if the knife be kept at all times anterior to such plane; (*f*) that the space is divided into two cavities by a sæptum formed by the styloglossus and stylopharyngeus muscles. This in most cases protects the great vessels from purulent infiltration. Failure of this sæptum to act explains the cases cited by Bosworth where pus passed along the great vessels into the mediastinum.

Nature of Bartholinitis.—Columbini (*Archiv für Dermatologie und Syphilis*, 1899, xlviii, No. 2; *Medical Review of Reviews*, July 25th) has apparently settled two disputed points in connection with this disease: First, it is an affection of the duct, and never of the gland proper. Histologically there is a proliferation of the duct epithelia and a small-cell infiltration of the circumjacent tissue which is responsible for the abscess formation and for the tendency to relapse, which is so noteworthy here. Secondly, the pathogenic germ is always the staphylococcus, never the gonococcus. In this respect bartholinitis agrees with the other suppurative post-gonorrhœal lesions; the action of the gonococcus appearing to pave the way for infection by the other germ.

As to therapy, Columbini believes in immediate excision of the gland as the only way to break up the pyogenic focus with its constant tendency to relapse.

The Use of Sanarelli Serum in Yellow Fever.—Dr. P. E. Archinard (*New Orleans Medical and Surgical Journal*, August) reports a series of eleven cases of yellow fever treated in hospital at New Orleans, and three mild cases treated in private practice, in the fall of 1898, with Sanarelli's serum received from Montevideo. An analysis shows that six out of the eleven hospital patients died, and in two of them the condition appeared to be aggravated by the serum. The five which recovered were of a milder type. The three private patients recovered, only one, however, showing the disease in any severity. Dr. Archinard remarks that from the foregoing cases, which limit his experience with the anti-amaryllic serum of Sanarelli as a curative agent in the human being attacked with yellow fever, he is forced to conclude that this agent, in his hands, has shown no curative powers whatsoever, none of the important and dangerous symptoms of the disease having been in any way mitigated, or prevented, by its administration. The hospital cases, it is true, were severe cases, and in some of them treatment was begun at so late a date as to preclude all hope. The patient's symptoms before and after serum injection showed so little change as to warrant the foregoing conclusion. In justice to Dr. Sanarelli, it must be said that he has never pronounced himself as believing absolutely that his serum was curative in the graver cases; he cautions all users of it that the whole subject is still under study and recommends that this serum be used early. This latter instruction is not always easy to follow, as a diagnosis can not always be made early. Indeed, in early cases of yellow fever it is difficult to say which are going to be severe and which not, and, judging by an experience in this city in the last two years, the great majority of cases are benign and get well under any treatment, and necessarily serum employed at random in these cases would be at a great advantage.

As regards the immunizing property of the serum in the human species, the author has no experience and can not speak with authority, but experiments performed on smaller animals in his laboratory do not warrant him in entertaining a high regard for its immunizing power.

Book Notices.

A Text-book on Practical Obstetrics. By Egbert H. Grandin, M. D., Gynæcologist to the Columbus Hospital, etc. With the Collaboration of George W. Jarman, M. D., Instructor in Gynæcology in the Medical Department of Columbia University, etc. Second Edition, revised and enlarged. Illustrated with Sixty-four Full-page Photographic Plates and Eighty-six Illustrations in the Text. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1898. Pp. xiv–3 to 461. [Price, $4.]

We should judge this work to be the outcome and combination of the authors' *Pregnancy, Labor, and the Puerperal State* (1895) and *Obstetric Surgery*. The only preface to the work is that which is said to be taken from the first edition.

The assertion is made that the book is practical; those who know the authors would expect such a work. There is no change in the lucidity and directness, the rigor of thought and diction, of the previous edition.

There is improvement in the mechanical part of the work; the illustrations are clearer, most of them, and the ink is less sticky. The previous edition was sadly marred by such defects.

The combination of the two divisions of the subject into one complete work was desirable; each was incomplete without the other.

The subject of the last chapter, ectopic pregnancy, is of such supreme importance that it might have been treated at greater length. True, the book is mainly the reflection of the authors' opinions and experience; but this is insufficient for the elucidation of such a theme. We can not agree to the old notion, so often expressed, that the life of the viable extra-uterine fœtus is to be disregarded on the ground that most of those which have been extracted alive have been puny and deformed.

The mother's life may be the more important, at least we may think so, but, as we can not foresee the future of the child, our plain duty is to take every precaution to husband its vitality and start it on its career with as favorable conditions as possible.

The chapter on the normal puerperium is especially sound and wholesome.

The chapter on the pathological puerperium is rather dogmatic. Thus: "Puerperal fever, therefore, is never endogenous in origin. It is always exogenous; that is to say, emanates from without." Still, it is admitted that latent sources of mischief may be in the patient's body at the time of parturition, and one can not always prove that they have been aroused to activity by influences from without. We believe, in company with some very good authorities, that the exciting influence is occasionally from within.

One is here advised against early hysterectomy for puerperal endometritis. It would be interesting to know how many lives had been saved and how many lost by hysterectomy during the early days of the puerperium, and whether those which have been saved would not have been equally safe without the operation. In other words, hysterectomy during the early days of the puerperium, when septic endometritis is pronounced, will rarely prove a life-saving measure. It does not reach far enough, and it is well to frown upon a tendency to perform an operation which can seldom be justified.

It is proper to refer to the influence of the authors in urging the study of pelvimetry, which is well accentuated, together with a clear *résumé* of the subject of asymmetry of the pelvis, in the chapter on dystocia.

On the use of the forceps the teaching seems to be *traction, and traction only.* That depends, of course, upon the operator. The pendulum motion is often useful, and may be entirely harmless. No one was more dexterous with the forceps than the late Dr. Isaac E. Taylor, but he did not hesitate to make use of this motion when occasion required.

Shall we Drink Wine? A Physician's Study of the Alcohol Question. By Dr. John Madden, Professor of Physiology in the Wisconsin College of Physicians and Surgeons. Milwaukee: Owen & Weihbrecht Company, 1899. Pp. 9 to 220.

The conclusions reached in this study seem to be that alcohol has no value either as a food or as a stimulant to muscular or mental work; that in normal health alcoholic beverages "are entirely unnecessary, and therefore do no good"; on the contrary, they often lead to inebriety, crime, and degeneracy; "that alcohol as a remedial agent might be forever banished from the physician's armamentarium of drugs without in any way lessening his efficiency in combating disease"; that it is difficult to say which is the worst, spirits, wine, or beer, but all are bad; that the ordinary adulterants are practically harmless.

The author believes that if the consumption of alcoholic beverages were absolutely prevented the millennium would be in sight, and suggests a campaign of education to bring about such a result. He admits, however, that the statements in the school text-books are often inaccurate and exaggerated.

It is hardly necessary to add that the statements of our most authoritative physiologists are, to say the least, much less positive than those found in this book.

Hay Fever and its Successful Treatment. By W. C. Hollopeter, A. M., M. D., Clinical Professor of Pædiatrics in the Medico-chirurgical College of Philadelphia, etc. Second Edition, revised and enlarged. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. viii–9 to 151. [Price, $1.]

We said of the first edition that, while it gave a fair summary of the hay-fever question, the author's observations upon the subject of treatment were not convincing, for the same measures advocated by him had quite failed to give equally good results in the hands of others. After looking over the present edition, we see no reason to alter our previous opinion. In it the author has enlarged the text so as to include the special treatment (according to his own ideas) of the various types of hay-fever cases. The section on bibliography has also been brought up to the date of publication.

BOOKS, ETC., RECEIVED.

Golden Rules of Psychiatry. By James Shaw, M. D., Qu. Univ. Irel., Assistant Medical Officer, Grove Hall Asylum, Bow, London, etc. Golden Rules Series. No.

V. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent, & Co., 1899. Pp. 4 to 74. [Price, 1s.]

Ezra. By Edmund K. Goldsborough, M. D. With Illustrations. Washington: National Publishing Company, 1899. Pp. 3 to 113.

Le Diabète et son traitement. Par R. Lépine, Professeur de clinique médicale à l'Université de Lyon, etc. Paris: J.-B. Baillière et fils, 1899. Pp. 5 to 90.

Les Troubles mentaux de l'enfance. Précis de psychiatrie infantile avec les applications pédagogiques et médico-légales. Par le Dr. Marcel Manheimer, Ancien interne des asiles de la Seine et de la clinique des maladies mentales à la Faculté, etc. Préface de M. le Professeur Joffroy. Paris: Société d'éditions scientifiques, 1899. Pp. 5 to 188.

Tesis para el Doctorado en la Facultad de Medicina. Por Pablo S. Mimbela. La Panhisterectomia Abdominal en los Fibromas Uterinos. Lima: San Pedro, 1899. Pp. vi–7 to 56.

La Riunione per prima delle ferite. Con special riguardo alle superficie suppuranti. Ricerche sperimentali e risultati clinici. del Dr. G. Pascale, Professore pareggiato della R. Università. Con due tavole. Napoli: Pontieri e Velardi. Pp. 3 to 40.

Innesti ossei. Risultati sperimentali e ulteriori. Ricerche istologique pel Dott. Giovanni Pascale, Coadiutore all 'Istituto di pat. proped. chirurg., etc. Napoli: R. Pesole. Pp. 5 to 57.

Transactions of the Academy of Stomatology. January 25, 1898, to December 27, 1898.

The Bulletin of the Ohio Hospital for Epileptics. Volume I. Numbers 2 and 3. July and December, 1898.

Quarterly Report of the Medical Officer of Health, Islington. First Quarter, 1899.

Secondary Abdominal Pregnancy after Traumatic Rupture of the Uterus in the Fourth Month. Laparotomy. Recovery. By Hunter Robb, M. D., of Cleveland. [Reprinted from the *Cleveland Medical Gazette*.]

The Bacteria occurring in the Female Genital Canal and their Relation to Endometritis. By Hunter Robb, M. D. [Reprinted from the *Cleveland Medical Gazette*.]

The Intra-uterine Application of Chloride of Zinc. By Hunter Robb, M. D. [Reprinted from the *Cleveland Medical Gazette*.]

Case of Papilloma of the Ovary. By Hunter Robb, M. D. [Reprinted from the *Cleveland Medical Gazette*.]

The Influence of Extirpation of the Ovaries upon Structural Changes in the Uterus. By Hunter Robb, M. D. [Reprinted from the *Cleveland Medical Gazette*.]

A Case of Endothelioma Lymphangeiomatodes of the Cervix Uteri. By Hunter Robb, M. D. [Reprinted from the *Transactions of the American Gynæcological Society*.]

The Conservative Treatment of the Myomatous Uterus. By Hunter Robb, M. D. [Reprinted from the *American Journal of Obstetrics*.]

Irrigation with Salt Solution and other Fluids in Surgical Practice. By Hunter Robb, M. D. [Reprinted from the *American Journal of Obstetrics*.]

The Treatment of Retrodisplacements of the Uterus. By Hunter Robb, M. D. [Reprinted from the *American Journal of Surgery and Gynæcology*.]

The Importance of a Diagnosis of Melancholia in its Incipiency, with a Study of Two Cases of the Convulsive Form. By S. Grover Burnett, M. D., of Kansas City.

A Case of Friedreich's Ataxia. With Abbreviated Clinical Digest. By S. Grover Burnett, M. D.

Organotherapy. No. 5. The Goulstonian Lectures on the Pathology of the Thyreoid Gland. By George R. Murray, M. D., of London. [Reprinted from the *Lancet*.]

Forty-third Annual Report on the Health and Sanitary Condition of the Parish of St. Mary, Islington.

Miscellany.

The Use of Separate Beds for Married Couples.—In an article on the Bedstead, one of the last published by Lawson Tait (*Birmingham Medical Review; Canadian Journal of Medicine and Surgery*, August), he says that "the additional comfort obtained by every English man and woman on a visit to the continent, when they found in their bedrooms two snug little single bedsteads placed side by side, made no impression till about ten years ago, when a few venturesome islanders began to dare the breath of scandal by having separate beds. There can be no doubt that this was the reason why the improvement was resented, for to this day the proof of the worst that can be circulated concerning a married couple is that 'they occupy separate rooms.' The use of separate beds was, and is to some extent still, regarded as almost as scandalous. Yet in all the best homes in our country each bedroom has attached to it a 'dressing room,' with a single bed in it, and by this a great increase in comfort and health is attained. Now that we know that consumption is a disease communicated from one to another by contact and breathing the air already breathed by the consumptive, the hygienic precaution of separate beds ought to receive some public recognition. For centuries the Italian physicians have taught the possibility of the disease spreading from husband to wife, and from one person to another, when a tainted and a healthy person have occupied the same bed. There are doubtless many other diseases of which the same is true."

An American Physician Decorated.—According to the *Medical Times* for August, the Shah of Persia has conferred the order of the Sun and Lion, the highest honor in the land, upon his physician, Dr. Holmes, an American, who has been established in Persia since 1874.

The Contagiousness of Bubonic Plague.—According to the *Medical Times* for August, an official report to the State Department from Alexandria, Egypt, expresses the opinion that the plague is not propagated by direct contact. There is no report of repeated cases in the same house. Immediately upon the sending to the hospital of individuals suspected to have the plague, all those who have been allowed to approach them, and especially those who have inhabited the same houses, are sent to a lazaretto outside the city. No suspected case has broken out among those who are known to have been in direct contact with individuals now down with the disease.

Medicine not a Science, but a Scientific Art.—Dr. Simon Baruch (*Medical Register*, July), in an oration recently delivered at the Eleventh Annual Meeting of Alumni of the Medical College of Virginia, says: "The attempt to elevate medicine to the rank of a science is another error emphasized by history, which clearly demonstrates that the accumulation of data and the speculation upon theories do not make a science. Medicine can not reach beyond the limit flatteringly assigned to it by Bacon, who called it 'a conjectural branch of the natural sciences.'

"Despite the enormous mass of positive data accumulated during the latter half of the present century—*i. e.*, during the most brilliant period of medicine—the latter still occupies the position of which Virchow wrote in his salutatory editorial (*Archiv für Pathologie und Therapie*): 'Therapeutics must rise from its empirical standpoint; cultivated by practical physicians and clinicians and combined with pathologic physiology it must be elevated into a *science, which up to this time it is not.*' This was written fifty years ago, and it is but too true to-day!

"The reason is self-evident. Therapeutic problems involve so many uncertain and indefinite premises that deductions from them must be equally inexact, and therefore unscientific. Nevertheless the search after positive data must continue in order that a *medical art may be constructed upon a scientific basis.* Such a therapy is now in process of evolution in the modern development of the hygienic, dietetic, climatic, and hydriatic management of patients, as illustrated in typhoid fever among the acute and phthisis among the chronic diseases."

Congenital Absence of Both Eyes.—Guerrant (*Archives of Pœdiatrics; Atlanta Journal-Record of Medicine*, August) reports the case of a primipara at full term who gave birth to a male child with congenital absence of both eyes. There was no trace of a globe in either orbit. The orbital fissures were about one fourth of an inch in length. There was no orbital enormity, and the forehead was not high. In other ways the child was normally developed.

Action for Damages for X-ray Burn in France.—*Treatment* for July 27th thinks that the following case may perhaps bear recounting, owing to the satisfactory result: Mme. Mochert, a young lady of Paris, recently brought a suit for five thousand francs damages on account of an alleged X-ray burn. The plaintiff had an affection of the thigh which the doctors advised should be skiagraphed. The thigh was exposed three times without protection, with a total duration of sixty minutes.

Dr. Bardet, one of the witnesses, testified that burning would result in rare instances from the use of the Röntgen rays. Everything depended on the patient's physical condition. He maintained that if the doctors were made responsible for such accidents they would be obliged to renounce the use of the X rays. The medical man was acquitted.

Verbum Sapienti, etc.—We quote the following from the *Plexus* for July: A contemporary gives as a valuable health hint the following: "The best way to keep well is to remain in good health, and the best remedy for all ills is to avoid sickness." It further tells us that "anybody who will observe these simple rules will never need a doctor."

When the laity, says the *Plexus*, become wise enough to observe these simple (?) rules, what is to become of the doctors? Let's not think about it. Let's live in hope.

Kerosene as a Mosquito Exterminator.—In view of the scheme for checking malaria by killing with kerosene the mosquitoes that harbor the malarial parasite, the *Journal of the American Medical Association* for August 5th states that a successful test of this method has been made in Italy. The water tank of an Italian villa was found to be swarming with culex larvæ estimated at four or five hundred to the bucketful. Ten drops of kerosene added to the bucketful killed them all in twenty minutes, and a few teaspoonfuls sufficed for the whole tank of three hundred cubic feet capacity. At this proportion quite large ponds or even marshes may be coated at very slight expense.

Juvenile Cigarette Smoking in England.—According to the *Lancet* for July 29th, England, as well as this country, has its troubles from juvenile cigarette smoking. The *Lancet* says that the *Local Government Chronicle* of July 22d reports that the cigarette-smoking juvenile troubles some of the members of the Bridport town council a good deal. The question of excessive smoking among youths was gravely discussed at the last meeting of that body, when, says our contemporary, Alderman J—— "wanted the town clerk to look into the matter with a view of seeing whether the council had any authority to deal with it. The town clerk, as might have been expected, explained that he did not think there was any law that enabled them to deal with the subject. It might be coarse and rather strong-smelling tobacco, but none the less wholesome. Councilor S—— said he *should like to propose that the whole of the council discontinue smoking in order to set a good example*, whereupon the mayor asked him if he was a non-smoker. Councilor S——: Yes. The mayor: Then don't restrict others." The matter was then allowed to drop, but, says the *Lancet*, we can not resist referring Councilor S—— to the oft-quoted lines from Hudibras concerning those who "compound for sins they are inclined to by damning those they have no mind to." Has Councilor S—— no frailties? asks our contemporary.

Colonial Sanitary Administration.—The *Army and Navy Journal* for August 5th says:

"In presenting some of the following considerations we shall also be giving a good lesson to that noble army of critics at home who are as wise in all matters colonial as they are in the conduct of a war. Their cool assurance will, however, scarcely be affected by the knowledge that the United States may well be pardoned a few mistakes if England, after generations of colonial experience, is still groping in the dark on many points of vital importance. Compare our vigorous work at Santiago and other yellow-fever districts with this state of affairs in India as outlined in the *Civil and Military Gazette*, of Lahore, India, which says: 'The last mail brings with it the text of Mr. Chamberlain's speech relating to the establishment of the London School of Tropical Medicine, which is undoubtedly one of the most crying needs of our empire.'

"This it proves by showing that in the recent Tirah campaign, while there were only a thousand admissions to hospital from gunshot wounds and other injuries, there were eleven thousand admissions to hospital from fever and dysentery; and that while there were one hundred deaths from wounds and injuries, there were nearly six hundred deaths from diseases of the tropical kind. 'It is certainly time,' proceeds the *Gazette*, 'that something was done to put some order and system into the study of a question which is of such vital interest to the empire. No nation, certainly, but the English would have been colonizing for the last three hundred years and ruling in India for the last hundred and fifty years without making a special study of the particular conditions of the climate in which it was called upon to rule. At the present time no ordinary practitioner in England has the faintest idea of the nature or treatment of malaria, and the ordinary medical man on his arrival in this country is in a similar condition of happy ignorance. It is time that this state of chaotic indifference should stop.'

"Though the colonial secretary is apparently hopeful that through the labors of science the disease will in process of time diminish, the *Gazette* expresses the fear that Mr. Chamberlain is oversanguine, and holds that a disease that is in its nature a necessity of the climate stands on a different footing from one that is merely epidemic. It ridicules as a Utopian dream Mr. Chamberlain's belief that some one will find a cure for malaria, and for the fevers desolating the colonies and dependencies in many tropical regions, and that 'better sanitation, better nursing, better medical attendance, may gradually reduce the tale of victims, until Englishmen may live almost as safely in the Deccan or in the Soudan as in Leicestershire.'

"That this contention of the paper is sound, it goes on to prove by declaring that the spread of civilizing agencies in India is only increasing the death-rate from malaria. This startling state of things it attributes to the spread of canal irrigation, which is adding steadily to the conditions that produce malaria.

"We refer," says the *Journal*, "to England's troubles less with a desire to criticise her captiously than to soften the blows our own patriots aim at their government for not knowing the business of colonization at once. The contention of the skeptic that even omnipotence can't make a three-year-old steer in a minute may, after all, be susceptible of easier proof than that this government can master in less than a year problems that are to-day staggering Great Britain, though she has had a century and a half experience in dealing with them. What will the critics of our government say when, against the work accomplished at Santiago, where its lowest death-rate was attained this year, we place the recent declaration of the *Indian Medical Record* in the editorial opinion that Bombay and Calcutta are doomed cities, because of the practical impossibility of ever getting their sanitary conditions into reasonably good shape?"

A German School for the Study of Tropical Diseases.—According to the *Journal of the American Medical Association* for August 5th, the German Government is about to establish at Hamburg a school for the study of tropical diseases.

Medical Education in Kentucky.—The State board of health of Kentucky, in a circular dated August 1st, gives notice that it will hereafter refuse to recognize, as a basis for certificates to practise medicine, diplomas from any medical college which does not, in good faith, comply with the requirements of the American Medical College Association, the American Institute of Homœopathy, and the American Eclectic Medical College Association, respectively, both as to preliminary education and as to the four years' course of study. This means that no school that graduates three-year students will be recognized in the State hereafter. The board provided an examination for three-year graduates of the present year, as many of the students had attended such schools in ignorance of its advanced requirements, but found this course unsatisfactory, a large percentage of the examinations indicating incomplete preliminary education as well as imperfect medical training. This standard for the State of Kentucky was made and promulgated in 1891, to take effect this year, but notice of it is again published that schools patronized by Kentucky students and future graduates expecting to practise in Kentucky may fully understand the requirements.

Colloguing Bacilli.—Dr. Dunbar Roy, of the *Atlanta Journal-Record of Medicine*, assures us that he recently overheard the following conversation:

Typhoid bacillus: "Will you be with us next summer?"

Bacillus coli communis: "Can't say; my movements are very uncertain."

The Dolomol Compounds.—Dr. Thurston G. Lusk (*Journal of Cutaneous and Genito-urinary Diseases*, August) reports that he has used these compounds in more than a hundred cases of skin diseases. He has found dolomol-acetanilide (twenty-five per cent.) useful in varicose ulcers and particularly in chancroids. He has used dolomol-resorcin (ten per cent.) in seborrhœal eczema of the face and body, in seborrhœa oleosa, and in acne with excellent results.

Dislocation of the Head of the Humerus and its Reducibility.—The *International Journal of Surgery* for July publishes an abstract of a paper read by Dr. Thomas H. Manley at the recent meeting of the American Medical Association in which the author says that irreducibility is not very uncommon, but sometimes an arm which can not be reduced immediately after injury may, on the following day, or even later, readily return on slight manipulation, or spontaneously return during the movement of a patient in bed. The period when reduction should be undertaken is an important one. That we should insist on immediate reduction in all cases is, no doubt, a mistake, and may result in serious consequences to the patient. Shock has been sustained, there may have been a free hæmorrhagic effusion into the capsule or surrounding tissues with marked muscular spasm. The patient has sustained great violence, and why expose him to the risks of another fresh assault until the system has well revived from the first? Boyer reminds us that we need have no fear of trouble from the pathological changes that follow, because the parts are in a state of "stupor" for some time after displacement, and, moreover, Lund, of Boston, says that "a luxation of less than two weeks' standing is as easily reduced as a fresh one."

Osteopathy Illegal in Pennsylvania.—According to the *Medical Record* for August 5th, the Medical Council of the State of Pennsylvania on May 24th decreed the practice of osteopathy in that State to be illegal.

The Richmond Academy of Medicine and Surgery.—The subject for discussion at the meeting of August 8th was facial paralysis.

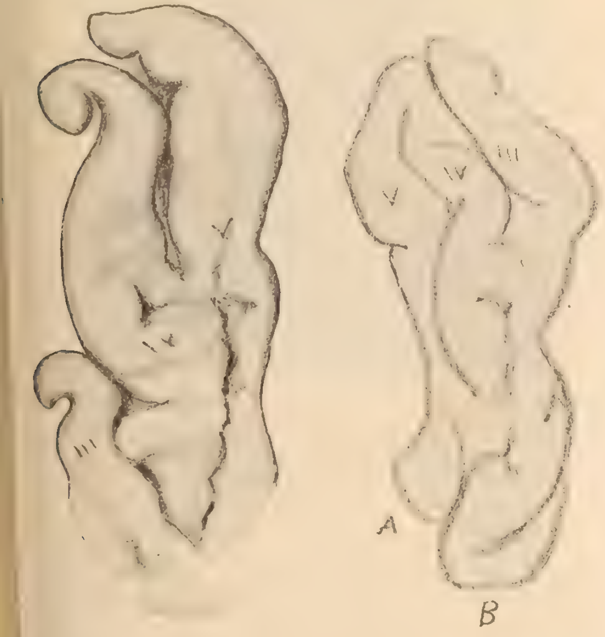
Original Communications.

THE ANTHEMION.

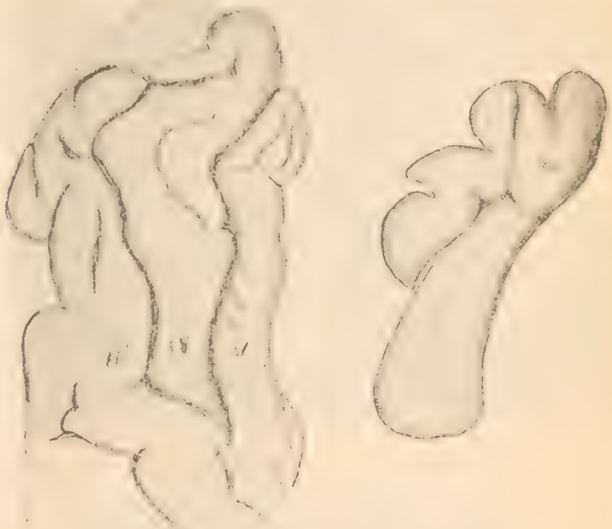
By WALLACE WOOD, M. D.

I first noticed the anthemion form upon the under ccipital lobe of a female human brain, presented to ie by my much-lamented master and kind friend Auust Voisin, of the Salpêtrière, on New Year's day, 896. While preparing the two separated hemispheres y the nitric acid and bichromate process, turning them ver frequently, and watching with care that no distorion might take place, I one day observed sculptured uite plainly upon the left hemisphere a figure of three oils or scrolls interlaced or interlying, and producing lmost the exact appearance of the half of a well-known esign that crowns nearly all Attic tombstones and reek temples—the mystic flower of life in death the nthemion or "palmette."

As might be supposed, I did not look upon the mater seriously. I presumed that it might be a mechanical r vegetative accident and without physiological or sychological significance. Nevertheless I made a note f it, and two months later while engaged in the preparation of a series of the brains of cattle, I was most cerainly surprised, not to say startled, when I found that he under occipital lobe, which in bulls and cows is very arge, and is indeed the only occipital lobe, presents to naked eye an appearance which it seems to me can nothing else and nothing less than the famous anmion entire, right half on the right hemicerebrum, t half on the left hemicerebrum, the anthemion, the mortal flower, stamp and symbol of the life of the race. My mind reverted at once to the "sacred tree," the arbor vitæ, with its mystic flower the anthemion on the Assyrian monuments, where also, singularly enough, it is often figured as butted by rampageous bulls.



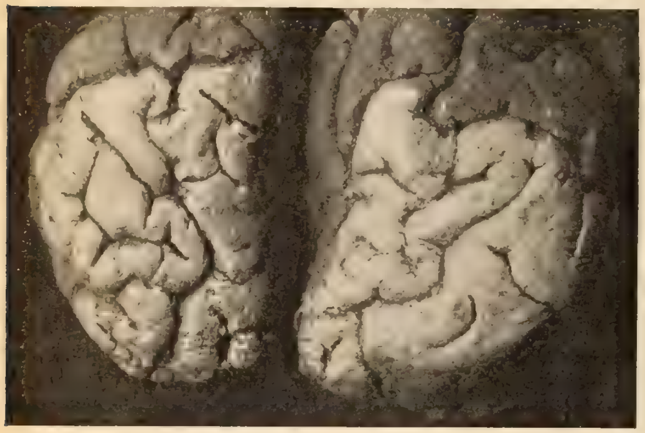
The question then arose, Could the ancient Egyptians, Assyrians, and Greeks, with whom the anthemion was in constant use as a sepulchral device, have known of this analogous appearance upon the under occiput of men and cattle? The answer is No. The well-known sepulchral design and symbol is in its origin distinctly floral and not animal or cerebral; it is derived probably from the lotus or water lily, a plant which exhibits in striking clearness the "heart of the flower," that peculiar stamenate-pistillate interscroll formation by the function of which the life of a race is preserved from extinction, well taken as the emblem and guarantee of perpetual life on earth.



The anthemion or mystic flower of the tree of life as a sepulchral design originated in Egypt, passed to Assyria, and culminated in Greece, where it assumed two exactly opposing forms: one is the convex or male anthemion which, as a rule, crowns the Greek tombstone or Attic stile, which, we must remember, was in its origin a conic pillar; the other is the concave or female anthemion, a design plentifully strewn over all the Greek sepulchral vases. We rarely find the female anthemion on the sepulchral cone, and never the male anthemion on the sepulchral cup. We see indeed how fitly the convex or overbending flower crowns the cone, and how perfectly also the vulvalike or outrolling flower becomes the sacred or sepulchral chalice.

The sacred flower both in the convex and concave form has passed into civil architecture, and known as the palmetto, is one of the most common of the classic designs.

The anthemion form prevails in the brains of horned cattle and in horses. In cattle I have once or twice observed that the curves seemed to correspond to the curves of the horns, a correspondence that need not surprise us, as the anthemion and the horns are both doubtless to be regarded as secondary sexual characters. When we pass to the primates the form is very apt to be suggestive of the phallic. In many cases upon both male and female brains of primates the linguates and fusiforms combine to make a piece of sculpture that seems an echo of the sepulchral pillar, and that echo not far distant. I should hesitate to give the underocciput of primates any such name, as I should hesitate to designate a tombstone by such a name. The proper term would be perhaps *anthemion*, *anthos*, or *cone*. Taking all the mammalia together so far as I have been able to observe in the collections of London and Paris, and in my own collection, and in plates showing the region, I find sculptured in the underocciput three sepulchral forms: the anthemion, the caduceus, and the conus, the last appearing to be the type in the primates. Other forms appear, however, which will, I believe, prove to be not less significant.



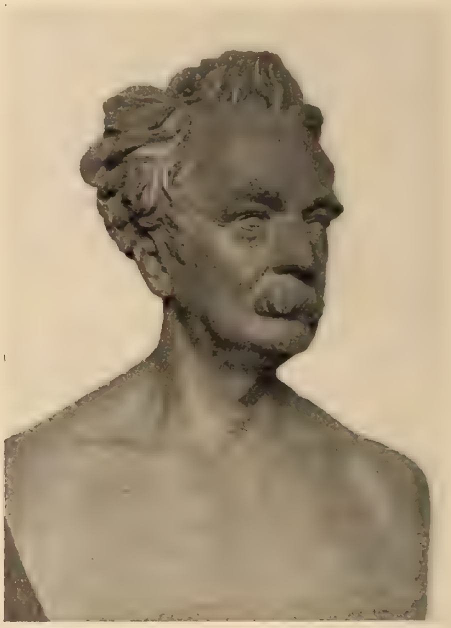
These figures in art represent a transmuted or transfigured sexuality; it appears to me that the protencephalon, the great brain, is also of a psychical or spiritual nature as opposed to the flesh without and below, and though it appears that the sculpture of the underocciput of any mammal is, strictly speaking, a sculptural spiritual apparition in the cortex of the urogenital apparatus, yet if this should prove to be true we ought doubtless to be careful concerning the nomenclature, the enunciation of the doctrine and the application of the theory. *Facilis descensus* is as true in science as in life, and any system whatever in the range of the medical sciences ought to convey the uplifting and curative idea rather than its contrary. There is reason to believe, moreover, that attachment in the sense of friendship, kindness, charity, and the love sentiment has a grounding in the forehead.

SUBCUTANEOUS TENOTOMY.

BIOGRAPHICAL NOTES.[*]

BY A. B. JUDSON, M. D.

IN 1876 Dr. Louis Stromeyer (1804–1876) reached the fiftieth anniversary of his graduation in medicine at Berlin. The event was celebrated at Hanover. Mr. William MacCormac read the British address, which contained the following words: "Your discovery of a safe method of subcutaneous surgery forms an epoch in the history of our art"; and Dr. Little "made some remarks thanking Stromeyer for having consented to sit for a marble bust,"[†] which was presented to the college at London, where it stands "among those of the most eminent British surgeons."[‡] "Stromeyer denominated Dr. Little as the Apostle of Tenotomy, and ascribed to the visit paid him by Dr. Little the rapid diffusion of a knowledge of its happy results in Germany, France, and the United States."[*] "Never was any great surgical operation, involving a vital principle of surgery, spread in less time over the globe, and with less resistance, than tenotomy."[||]



Stromeyer

In 1829, at Hanover, Dr. Stromeyer "established a private orthopædic institution, and here, in February,

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[*] Read before the American Orthopædic Association at its thirteenth annual meeting, New York, June 2, 1899.

[†] *Medical Times and Gazette*, London, April 22, 1876, p. 450.

[‡] *Proceedings of the Royal Medical and Chirurgical Society*, London, 1877, vol. viii, pp. 179–182.

[*] *Lancet*, January 7, 1854, pp. 19, 20.

[||] *Association Medical Journal*, London, June 29, 1855; New Series, vol. iii, p. 603.

831, he made his first section of the Achilles tendon. he operation marks the beginning of the whole system f subcutaneous surgery and, it may fairly be said, of ll really successful orthopædic treatment."[*]

W.J.Little.

In 1836[†] our late honorary member, Dr. William ohn Little (1810–1894), visited Dr. Stromeyer at Ianover and—"unknown to his nearest friends in Lon- on, who would, he feared, have tried to prevent him ad they known of his intention,"[‡] and disregarding e advice of many surgeons, of whom "none gave him elp or hope"[#]—submitted himself to subcutaneous te- otomy for the relief of talipes equino-varus of the left ot,[||] "in which the sole was turned toward the oppo- te ankle,"[△] the result of an attack of infantile paral- is at the age of four years.[◊] Up to the time of the eration he had worn instruments, "but could not walk any yards without pain." The result of the treat- ent at Hanover was satisfactory, and he was enabled "walk twelve miles with pleasure."[‡] "The benefit ich he had received at the hands of Stromeyer laid m under a deep obligation, both to that surgeon and to society at large, to devote his energies to the extension of the knowledge of tenotomy among the other scientific men of the day."[*] In Berlin "his emphatic testimony to the success of Stromeyer's practice and the silent evidence of his own once deformed but now nearly corrected foot caused a revulsion of feeling in favor of subcutaneous tenotomy,"[†] a method which was not practised in England until he performed the operation in London, February 20, 1837.[‡] In 1839 "he commenced the formation of the Orthopædic Institution in Bloomsbury Square, since designated the Royal Orthopædic Hospital,"[#] and the same year was published his well-known book *Clubfoot and Analogous Distortions.*

Our late honorary member, Dr. William Detmold (1808–1894), was born in Hanover, came to New York in 1837 "and introduced orthopædic surgery into this country."[||] Within two years after his arrival in New York he had made a hundred and eighty subcutaneous divisions of the tendo Achillis in cases of clubfoot.[△]

At a stated meeting held on November 21, 1878, by the New York Academy of Medicine, by whose generous courtesy our meetings are held in these convenient rooms, ex-Vice-president Dr. Detmold, in behalf of Dr. Little, presented a copy of the bust of Stromeyer,

Wm Detmold.

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[*] *Proceedings of the Royal Medical and Chirurgical Society*, London 7, vol. viii, pp. 179–182.

[†] *Ibid.*

[‡] *Lancet*, July 21, 1894, p. 168.

[#] *Proceedings of the Royal Medical and Chirurgical Society*, London, 7, vol. viii, pp. 179–182.

[||] *Lancet*, July 21, 1894, p. 168.

[△] *British Annals of Medicine*, April, 1837; *American Journal of the lical Sciences*, August, 1837, vol. xx, p. 513.

[◊] *Transactions of the American Orthopædic Association*, 1894, vol. p. 335.

[‡] *British Annals of Medicine*, April, 1837; *American Journal of the ical Sciences*, August, 1837, vol. xx, p. 513.

[*] *Lancet*, January 7, 1854, pp. 19, 20.

[†] *Ibid*, July 21, 1894, p. 168.

[‡] *Clubfoot and Analogous Distortions*, William J. Little, London, 1839, Preface, p. xi.

[#] *Lancet*, January 7, 1854, pp. 19, 20.

[||] *Medical Record*, January 5, 1895, vol. xlvii, p. 22.

[△] *New York Quarterly Journal of Medicine and Surgery*, January 1840, vol. ii, p. 64.

which now occupies an honored place in Woerishoffer Hall of the academy's library. Thanks were unanimously returned to Dr. Little and Dr. Detmold, and the former was elected a corresponding fellow in the following year.*

It is evident that in current medical opinion Stromeyer was credited with having discovered subcutaneous tenotomy, Little with having widely disseminated a knowledge of it, and Detmold with having introduced it into America.

It may be added that not a few of the advances which have been made in surgery have been due to a previous false conception of the dangers which might follow the invasion of certain cavities and regions of the body or the disturbance of certain tissues. In the case of tenotomy Dr. Stromeyer was honored because it was believed that he had discovered a safe method of dividing tendinous structures whose fibres and sheaths are now seen to accommodate themselves readily to operative traumatism. His discovery greatly stimulated the study and practice of operative orthopædic surgery. It remains to be seen when mechanical orthopædic surgery will meet with a commensurate recognition. A wider diffusion of knowledge may give to it the precedence which now belongs to operative treatment. In the matter of congenital clubfoot, for instance, it is plain that tenotomy will decline in value when it is generally seen that the affection is curable by an early and patient resort to purely mechanical means.

GUNSHOT WOUNDS OF THE CHEST IN THE SPANISH-AMERICAN WAR.

By HENRY S. GREENLEAF,
FIRST LIEUTENANT AND ASSISTANT SURGEON, U. S. ARMY.

To get our sick and wounded into well-established hospitals for their ultimate treatment and away from the danger of contagion and other unhealthy surroundings, during our late war with Spain, required frequent transfers, which have left some very unsatisfactory and unconnected data for records, and might readily have led to erroneous conclusions regarding prognosis or treatment when considered under the conditions of war. There is much that would be instructive and valuable to know if we could connect the history of these cases from beginning to end, as they progressed in the different places where they were under treatment. For this reason there is probably much misapprehension concerning the nature of many of the gunshot wounds of the chest, especially among those under whose care they came soon after the injury was received. Several cases that looked most encouraging shortly after being wounded later developed serious complications.

Noting one or two such instances, I began to collect the histories of as many cases as I could find recorded by the different surgeons who had attended them. I have been able to collect the records of twenty-four cases as they were sent in separately to the surgeon-general's office by these surgeons, and of these cases, fifteen recovered without complications; three had hæmothorax, without going on to formation of empyema; and six developed hæmothorax, which eventually became purulent and required operation. One out of this latter number had peritonitis and died.

The histories of these cases were as follows:

Case I.—Winslow Clark, Company G, First Volunteer Cavalry. Wounded July 1st by a Mauser bullet, which perforated the left scapula through the infraspinous fossa three inches above the angle and an inch from the spinal border. No exit. The probable course of the bullet was downward and forward into the chest. There was some hæmoptysis and fever. No vomiting of blood. The hæmothorax was quite extensive, and was relieved by thoracentesis, performed a week after the injury was received. He recovered without further complications.

Case II.—Harry Mitchell, Company C, Seventh Infantry. Was wounded July 1st by a Mauser bullet, which entered over the spine of the left acromion process of the scapula, passed through the apex of the left lung, mediastinum, and right lung, and having its wound of exit in the second interspace, right nipple line. There was at no time any hæmoptysis, though a slight hæmothorax developed on the right side with some dry cough. He at that time had fever that was promptly controlled by quinine, and his spleen was greatly enlarged. The recovery from his wound was complete without surgical interference.

Case III.—Lieutenant Nair, Eighth Infantry. Was wounded at the battle of El Caney by a bullet which passed through the left chest, of the exact location of which I am not informed. There was considerable hæmoptysis immediately after the wound was received, which persisted for a few days. The wounds of exit and entrance healed. Later, at the General Hospital at Fort Monroe, there was found flatness over the left chest, with all the signs of an effusion into the pleura. This was aspirated off and a large quantity of serosanguineous fluid withdrawn. Later this was repeated with the same result. Eventually signs of sapræmia were present, so an incision was made and a large empyema opened into. Recovery followed this operation.

Case IV.—John B. Senica, Company G, Twenty-second Infantry. On July 1st was wounded by a Mauser bullet, which entered the back, just below the angle of the left scapula, passed up through the lung, neck, and jaw, and emerged through the alveolar process of the right bicuspid tooth. Both wounds healed by primary union. Just after the wound was inflicted he had profuse hæmoptysis, which lasted for a few days. There was loss of power of left arm, which disappeared gradually, numbness and tingling in the fingers, and desquamation of skin on the left hand. While on the *Relief* his temperature was normal, condition generally good, and on the twentieth day after the injury he was allowed to sit up for a short time each day. When admitted to the Long Island College Hospital his temperature was 102° F.; there was considerable dyspnœa

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* From the minutes of the academy and the statements of ex-President Dr. S. S. Purple.

On August 2d thoracentesis yielded nothing. On August 22d the symptoms demanded a more radical operation, so two inches from the seventh rib were exsected and eight ounces of pus removed, with fragments of disintegrated clot. Recovery followed this operation.

Case V.—Report of a case at Long Island College Hospital. Rough Rider. Wounded on July 1st by a Mauser bullet, which perforated the right forearm and the arm, fracturing the humerus, and entered the chest just below the axilla, emerging between the seventh and eighth ribs, near their vertebral attachment, causing a compound fracture of the eighth rib, right side, at its angle, and lodged beneath the skin. On the 27th he was admitted to the hospital, with fever ranging from 100° to 103° F.; had a harsh, dry cough and great dyspnœa, with signs of an effusion in left pleura. Thoracentesis on July 1st yielded one pint of a serosanguineous fluid. On July 22d an incision over the eighth rib recovered the lead core of the bullet; this was extended into the pleura and two pints of purulent fluid escaped. On August 10th the seventh and eighth ribs were resected and a large quantity of *débris*, clot, etc., was removed, and the jacket of the bullet was found and removed. Patient recovered.

Case VI.—Arthur W. Fairbrother, Troop C, Third Cavalry. On July 1st was wounded by a Mauser bullet, which entered just below the middle of the left clavicle; no wound of exit. There was hæmoptysis, which subsided after the first few days. Soon after this there was an irregular rise of temperature with the beginning signs of an effusion into the right pleura, with a return of the bloody expectoration. On admission to the *Relief*, about July 12th, he had a large effusion in the pleura. The wound of entrance was not completely closed and discharged a dark bloody fluid on coughing. The sputum was thick and suggested a pneumonia, temperature very high, and great dyspnœa. Paracentesis was performed about July 20th, and about three pints of a pure dark-red colored fluid drawn off, after which there still remained a large collection of material in the pleura, and the patient improved slightly, but only temporarily. On July 27th he was admitted to St. Peter's Hospital, Brooklyn. The wound had closed and the patient exhibited the same symptoms as above in an exaggerated form, the pleura having filled up again. An exploratory puncture was made and an empyema was found to have developed, for which reason the resection of a rib was necessary. This was done, posteriorly, and a large quantity of pus, clotted blood, and exudate was removed and an unsuccessful search for the bullet was made. The discharge was copious for a long while, but gradually diminished, and the patient was granted a furlough on September 10th, much improved. While lying in the field hospital in Cuba he was greatly exposed to wettings and bad climate.

Case VII.—Henry P. Darby, Company D, Thirteenth Infantry. On July 1st he was wounded by a Mauser bullet, which perforated the left arm and entered the left side of the thorax, fracturing the fourth rib in the axillary line. It penetrated both lungs and escaped from the right side of the thorax between the fourth and fifth ribs in the posterior axillary line. After being wounded he was subjected to considerable exposure before reaching the General Hospital at Siboney, Cuba. There, when seen about July 10th, his temperature was about 103.6° F. Respiration labored and very rapid, heart displaced well over to the right of the sternum, and there was absolute flatness over the entire left chest. Thoracentesis yielded fluid blood, only a small quantity of which could be removed. Later this became purulent, and Estlander's operation was finally necessary for his recovery.

Case VIII.—James Scanlon, Troop K, Third Cavalry. Wounded on July 2d by a Mauser bullet, which entered the right side of the thorax over the third rib in the midclavicular line, passed downward and backward through lungs, diaphragm, liver, and abdominal cavity, pierced the right iliac bone, and emerged from the gluteal region. He had but little hæmoptysis. He lay in the Division Hospital for some time on the wet ground, and was exposed to the worst conditions of weather. On admission to the *Relief* he was in great pain over the right chest and the entire abdomen; had nausea and vomiting, dysentery, great dyspnœa, and his temperature was hectic. The patient eventually died, August 19, 1898, of peritonitis and hæmopyothorax.

Case IX.—Mauser bullet entered the sixth interspace in the posterior axillary line and emerged in the corresponding interspace on the opposite side. There was some dyspnœa and hæmoptysis, with slight effusion into the left pleura. There was no fever to indicate any purulent collection, and recovery followed without complications of any kind.

Case X.—Wounded by a Mauser bullet, which entered over the eighth rib in the posterior axillary line, and there was no wound of exit. The bullet was never recovered, and there were no resulting chest complications.

Case XI.—Otto Hornlein, Company C, Fourth Infantry. Wounded in left chest, but probably only superficially, without wounding the pleura. There was no hæmoptysis, and the wound over the chest healed rapidly.

Case XII.—John Taylor, Troop D, Tenth Cavalry. Was wounded at about two hundred yards' distance, the bullet entering just below the angle of the left scapula. It then lodged in the abdominal muscles about two inches from the umbilicus. He had hæmoptysis for several days. He made an uninterrupted recovery.

Case XIII.—Ernest Bender, Troop I, First Cavalry. Wounded through the left chest, but he made a complete and uneventful convalescence. No very detailed history of his injury was received.

Case XIV.—Edward O'Flaharity, Company C, Sixteenth Infantry. Wounded on July 2d by a .45-calibre ball from a bursting shrapnel, which entered near the angle of the right scapula and lodged beneath the skin in front, between the seventh and eighth ribs, after having traveled through the lung, diaphragm, and liver. The patient had hæmoptysis for several days, with some rise of temperature, which had, however, completely subsided in ten days from the time of the injury; no pleural or peritoneal effusion resulted, and he was discharged from the Long Island College Hospital cured.

Case XV.—William J. McIntyre, Company F, Seventh Infantry. Was wounded by a Mauser bullet at about five hundred yards' range, which entered just above the middle of the clavicle, exit just below the tip of the scapula. There was some hæmoptysis immediately after receiving the wound, but convalescence was entirely uncomplicated and complete.

Case XVI.—Wounded by a Mauser bullet, which entered the left side of the neck half an inch in front of the median line, opposite the thyreoid gland, and made its exit on the right side of the chest at the fifth rib opposite the posterior axillary line. This fractured the clavicle at the inner third and caused an arterio-venous aneurysm. No pulmonary symptom other than slight hæmoptysis developed, and recovery was perfect.

Case XVII.—William A. Cooper, Troop A, Tenth Cavalry. A Mauser bullet entered the flesh over the chest an inch to the right of the left nipple and made its exit an inch below the costal margin on the right side in the mammary line. It is just possible that it did not wound the pleura at all, though at a very late date the history of hæmoptysis was elicited from the patient. His chest injuries healed promptly and without any resulting complications, but an intercurrent dysentery confined him to his bed for some time.

The histories of seven other cases were secured whose wounds healed promptly without complications. These are so similar to the above-recorded cases that room is not taken to include them in this report.

From the cases here presented we are at once impressed with the fact that while the effect of the modern gunshot injuries to the chest is humane, we have a sufficient percentage of unfavorable results to greatly modify this claim. Out of twenty-four cases we have nine, or nearly thirty-seven per cent., in which hæmothorax or empyema developed. There may be many more patients who promptly recovered, and certainly only a very few, if any, who had complications, but those who did, and whose histories we have before us, give us much important information. We can clearly infer that if they could have been treated under other conditions, as in time of peace, their results might have been less formidable. This is obviously impracticable in time of war, but offers valuable suggestions for the management of these cases at such time.

In the Santiago campaign the wounded had to be carried in ambulances, over roads that baffle description, in order to reach the hospitals at Siboney, and this was done some eight or ten days after the wounds were received. Moreover, while in the division hospitals on the San Juan River, they were but poorly sheltered, and were subjected to very severe weather, two conditions which would favor continued bleeding on the one hand and infection on the other. Illustrations of this we have in the first nine cases—the development of hæmothorax, which in most instances was not discovered until twelve or fourteen days after the wounds were received, and it was more than likely that prior to this time it did not exist to any marked degree, but formed gradually because of the inability to maintain perfect quiet and rest in the treatment. In three of these (Cases I, II, and III) the blood in the pleura was absorbed without becoming infected, and in all the others (excepting Cases VI and VIII) the breaking down of the thorax to form pus was a late complication. Thoracentesis showed blood only as late as the twentieth day in Case IV; nineteenth day in Case V; tenth day in Case VII, and in Case II blood only when the patient arrived at the hospital at Fort Monroe. In each of these cases, however, operation was ultimately necessary for empyema. In all except Case VI the external wounds of entrance and exit healed promptly, and the patient had no symptoms which would indicate infection at the time of injury. Case VI might have been no exception to this had not the injured man been compelled to lie on the ground, exposed to wet and cold, shortly after being wounded. From these facts it seems evident that in the majority of these cases the cause of infection of this collection of blood in the pleura was not the bullet directly; the micro-organisms must have gained access to this most fertile soil from the wounded lung. In Case V, indeed, we find that the development of empyema after the nineteenth day was on the side opposite to the wound of entrance.

These facts point clearly to most important suggestions in the treatment of all chest injuries in time of war. They are always to be looked upon as most dangerous wounds, especially in the eyes of the soldier himself, so that they will be handled with especial care from the time of injury. And the utmost care must be persevered with in their treatment for several weeks, until all danger of further hæmorrhage into the pleura is past.

The indications for treatment are twofold: First, to guard against infection at this time, when conditions are so favorable for that serious complication, and second, to check hæmorrhage as soon as possible; for a collection of blood in the pleura or a hæmatocele in the lung is a most fertile ground for saprophytic invasion, and acts itself as a foreign irritant. The first is met by promptly cleansing and applying the first-aid sterile dressing, and using special precautions during convalescence to prevent exposure and infection that would lead to any general inflammatory condition of the lungs. We know that a bronchitis, pneumonia, or any inflammatory condition of the lungs presents a favorable soil for the ever-present micro-organisms and soon breeds them into their more virulent form, thus greatly favoring the eventual formation of empyema or lung abscess, especially where there has been bleeding. The second indication is met by making it thoroughly understood, especially among the soldiers themselves, that all chest wounds are serious, and that the patient must be kept absolutely quiet and passive, avoiding talking and active motions of all kinds, and transferred with the gentlest care, preferably on a litter, over rough ground. The surgeon should employ the usual methods of controlling internal hæmorrhages, as keeping the injured side at rest by strapping and the use of opium, the administration of internal astringents, local use of cold, enforced use of bedpan, etc.

Undoubtedly, we have in chest injuries a condition which calls for the utmost care and painstaking, in order to prevent a fatal or a most serious and deforming result.

THE USE OF PAROTID-GLAND EXTRACT IN THE TREATMENT OF OVARIAN DISEASE.*

By E. PIERRE MALLETT, M. D.

I was led to use this extract from reports made by Dr. Bell, of Edinburgh, in 1896, and later by Dr. J. B. Shober, of Philadelphia. The theory which led Dr. Bell to experiment in this line of treatment was (in speaking of the use of thyreoid extract in treatment of carcinoma uteri) that when local disease began in an individual the organ which it took possession of must have departed from a healthy condition prior to this, and that the weakened condition of the organ affected might have been influenced by a morbid or functionally altered state of an organ in close physiological relationship. The healthy action of the skin, the mucous membrane, and the adjacent connective tissue appears to be dependent upon some peculiar action of the thyreoid gland, as shown by recent studies in myxœdema and psoriasis. Therefore, why may not epithelioma of the cervix uteri, which arises in the epithelial layer of the mucous membrane, be due to the absence of some obscure catalytic influence of this gland? It has also been observed that disease of the thyreoid gland is often accompanied by an excessive metrorrhagia, showing that the function of this gland exerts some potent influence upon the lining membrane of the uterine canal. Epithelioma does not attack a previously normal cervix uteri, but if there is present any lesion, such as laceration or hypertrophy due to long-standing endometritis or endotrachelitis, then this unhealthy state acts as a predisposing cause to the development, not only of epithelioma, but to affections of less virulent type. The close physiological sympathy existing between the mammæ and the uterus suggested the use of mammary-gland extract in fibroid tumors of the uterus, while the physiological relation shown between the parotid gland and the ovaries led to the use of the parotid extract in ovarian disease. In the cases reported, the parotid-gland extract was for the most part used in conjunction with the usual routine treatment of ichthyol tampons in the vagina, but the rapid improvement, both symptomatically and anatomically, of those patients getting the parotid extract left no doubt whatever of the great value of this preparation in the class of cases in which it was used. While it is admitted that I am enthusiastic about this new preparation, I do not profess to have found the long-looked-for panacea for the frailties of the feminine flesh, but rather wish to call the attention of the profession to a comparatively new and as yet unrecognized agent in the treatment of these cases, whose place is as yet unassigned and its limitations not defined. I also wish to be clearly understood before citing cases that I consider myself to be, in a measure at least, familiar with—those hopeless conditions of pus in the pelvis which can only be treated by radical operation—and the glandular extracts are not advocated for such cases, but rather for that large and constantly increasing class of cases included under the broad term of salpingo-oophoritis, a term covering a multitude of clinical and pathological inaccuracies, or rather unproved assertions. The preparation used was that made by the Phospho-albumin Company, of Chicago—glandulæ parotideæ in three-grain capsules. The substance, from results obtained, seems of uniform strength and produced absolutely no untoward symptoms in any case.

I report twenty cases in which the parotid-gland extract was used. In five cases the chief symptoms were severe dysmenorrhœa, and pains in the ovarian regions and back. The local conditions accompanying these symptoms were enlarged, tender, and prolapsed ovaries, varying in size, degree, and displacement. Upon the administration of this preparation, together with usual local treatment, the dysmenorrhœa was relieved and the enlarged and tender ovaries became apparently normal in a remarkably short period of time as compared with the usual local treatment alone.

Two cases seemed to show the action of the extract most clearly. In both cases the ovary at a previous operation had been carefully examined, found to be practically normal, and returned to the abdomen. The patients remained well for some months, one six and the other five, after which time they began to have pains again, and on examination the right ovary of each was felt to be enlarged and very tender. Both were treated in the usual way with tampons and douches without result until the parotid extract was given, when the ovaries in both instances became normal to the touch and the symptoms (pains) were relieved. The results in a number of cases of retroverted and adherent uteri with enlarged and tender prolapsed ovaries were equally gratifying. Upon the administration of the parotid extract the ovaries became less sensitive and smaller, and the exudate binding the uterus and appendages together seemed to soften, so that upon careful abdomino-pelvic massage the uterus could be raised, the appendages pushed up into place, and the symptoms relieved much more rapidly than in other similar cases.

To summarize, I would not attempt any physiological explanation of the action of the parotid gland on the ovarian structure, but would simply state some of its effects as I have observed them.

I. It has seemed to relieve the pains of dysmenorrhœa in all cases, without regard to the supposed cause or pathological condition present, to a greater extent than any of the numerous so-called uterine sedatives, all of which I have used.

II. It relieves those dull, aching pains referred to the back and ovarian regions, usually designated by those familiar though vague and unsatisfying terms, reflex pains, ovarian neuralgia, etc.

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* Read before the Society of the Alumni of the City (Charity) Hospital, April 12, 1899.

III. Menstruation, when deranged, seems to become more regular as to periodicity, less in amount, and shorter in duration.

IV. During its exhibition, pelvic exudate seems to soften and become absorbed more rapidly under abdomino-pelvic massage.

V. The general health, strength, and spirits seem to improve during its use, and those dull headaches which constitute such a persistent and annoying symptom in these cases are almost invariably relieved, and in some disappear entirely.

VI. The only counter-indication that I have thus far met with to its use has been in cases of the artificial climacteric (following double salpingo-oophorectomies), in which cases the flashes of heat and cold were made distinctly more frequent and severe.

It results from these facts that greater importance must be placed on increased accuracy in diagnosis. The time has passed when successful removal of the appendages is wondered at. Among men who have the true interest both of their patients and the profession at heart, it is rather incumbent upon the operator to prove that it was necessary to remove them at all; and any therapeutical agent seeming, as this one does, to combat the tendency to pathological changes in the widespread and all-important conditions I have been considering assumes professional and quite as much national importance. In the words of Dr. Bell, "An immense field for observation seems to be opening out, and will surely repay any amount of time expended upon elucidating these recondite physiological problems."

EXTRADURAL SPINAL MENINGEAL HÆMORRHAGE.

*WITH REPORT OF A CASE.**

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AND ST. ANTHONY'S HOSPITAL.

THE patient, J. M., was admitted to St. Joseph's Hospital June 16, 1898.

His family history is negative.

Previous History.—Had the usual diseases of childhood, after which he enjoyed good health until his present illness. Denies syphilis and alcoholism.

Present illness began June 13, 1898. While he was shoveling coal from a car on to a truck he experienced a peculiar sensation throughout the body; the patient is unable to give any fuller account of this sensation, only that it was peculiar and was not painful. After loading the wagon he crawled from the car to the truck and drove to the scales.

During this time the "peculiar sensations" still persisted, and on arriving at his destination he was unable to descend to the ground on account of paralysis of the lower limbs. The time which elapsed from the beginning of this peculiar sensation to reaching his destination was about twenty minutes. On being assisted from the wagon he immediately complained of sharp, excruciating pains in the lower portion of the back, extending around to the abdomen and down the thighs.

He was seen at this time by Dr. H. B. Curtis, who found him in the following condition: The patient was suffering severe pain in the lower portion of the trunk and down the thighs. Motor power of legs was entirely lost, also sensation in lower portion of the trunk and legs, excepting a small spot on the inner side of the left leg, where a prick of a pin was perceived. Pulse was normal; temperature normal. Pain was relieved by large doses of morphine. In the course of twenty-four hours the motor power of the left leg gradually returned, and by the end of the second day was fairly good. Sensation gradually returned. Reflexes at first were abolished. Had incontinence of urine.

I saw the patient on the third day of his illness. He was suffering pain in the same location, and of the same character as described above. The motor power of the left leg was good in every direction, but he was unable to make the slightest movement with the right. Sensation was present throughout the body. Knee-jerks: Right, absent; left, increased. Ankle clonus absent. Deep reflexes of forearm: Right, about normal; left, the same. Masseter reflex absent. Plantar reflexes: Right, slight; left, absent. Abdominal reflex was not taken. There was no ataxia nor paralysis in the arms. Facial muscles were normal. All the special senses were normal. At no time in the history of the case was the intelligence impaired. No evidence of atheroma of the blood-vessels. At the time of the examination the patient complained of a girdle sensation, and had incontinence of urine and fæces. The following day the patient was in the same general condition, excepting that nausea was added. During the evening he made a sudden movement, suffered severe pain in the back, and in a few minutes had a general convulsion, in which he died.

From the foregoing symptoms the diagnosis of spinal meningeal hæmorrhage was made, and was confirmed at the autopsy, held about eighteen hours after death.

Nothing abnormal was found until the spinal canal was opened. On removing the spinous processes, the canal external to the dura was found to be filled with liquid blood and a few small clots. The latter were found in the lumbar region. The membranes of the cord were slightly congested. The cord was normal.

In arriving at a diagnosis in the case one can readily exclude disease of the brain by the non-involvement of the cranial nerves and the character of the paralysis, along with the concomitant symptoms of spinal-cord lesions. The sudden onset of the symptoms would exclude all spinal lesions in the adult, excepting the vascular and those produced by sudden compression of the cord by displacement of the bone.

In hæmorrhage into the spinal cord the paralytic symptoms, as a rule, come on immediately, and are persistent, along with the localized pain occurring at the oint of rupture, which is not so severe, and at times nay be entirely absent; although in some cases, where he hæmorrhage is large and breaks through the subtance of the cord into the membranes, there will be dded the irritative symptoms of meningeal hæmorhage.

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* Read before the Colorado State Medical Society, June 22, 1899.

Extradural spinal meningeal hæmorrhage is not a ommon occurrence in the adult, except following some njury, such as blows or falls; while in the newborn t is comparatively a common occurrence, probably due o rupture of a cerebral meningeal vessel during birth nd the blood descending to the spinal membranes, alhough Schäffer reports one hundred autopsies of neworn infants in which ten had blood extravasated into he vertebral canal without the meninges of the brain eing involved.

In the case under discussion none of the common ætiological factors were found to account for the hæmorrhage, and after studying the case the only cause that I was able to ascertain was severe muscular strain or overexertion, which is the rarest of all the ætiological factors.

William Bain * reported a case similar to the one under discussion occurring in a girl, eighteen years of age, who was troubled with constipation. On December 21, 1894, in the evening, she took a cathartic for her bowel trouble; rested well, got up about 6 A. M., and in half an hour her bowels moved; returned to work and complained of numb and tingling sensation all over the body. When the physician was called the patient was in the following condition: Complained of difficulty in breathing, pain in the back of the neck, loss of motion and numbness in the upper and lower extremities. Mental condition good. Temperature, 98° F.; pulse, 52; could not move the left arm nor the right leg, but she could move the left leg with an effort, and the fingers of the right hand slowly. Knee-jerks absent. Sensation distinctly lessened. Patient went into collapse and died.

Post-mortem showed a comparatively small clot of blood at the third cervical vertebra between the dura and bone, the longer portion being on the right side. Severe muscular strain was the only cause found in the ase.

The most common location for spinal meningeal hæmorrhage to occur is in the cervical region. The location of the pain, paraplegia coming on suddenly, with no involvement of the upper extremities or respiation, in the case which I have reported, would lead ne to the opinion that the hæmorrhage occurred prinarily in the lumbar region of the spinal canal, as was lemonstrated to be the case at the post-mortem.

The convulsion in the case I have just reported nust have been due to great irritation of the spinal nembranes, or the medulla, or both, by the large quantity of blood. It has been demonstrated that if we irritate the membranes of the spinal cord or brain, convulsive movements will ensue. The sudden termination was probably due to paralysis of the cardiac and respiratory centres by pressure.

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* *British Medical Journal*, August 21, 1897, p. 455.

THE PUERPERAL STATE AND PUERPERAL HÆMORRHAGE.

DERIVATION AND CLASSIFICATION.

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I SHALL, no doubt, be criticised for the stand I have taken on the derivation of the terms puerperal state and puerperal hæmorrhage and their classification, especially since it is contrary to all the authors, but "so mote it be."

I have been very kindly assisted in my derivation from the Latin by my friend Professor William T. St. Clair, professor of Latin in the medical department of Kentucky University and the Louisville Male High School.

Puerperal hæmorrhage is not only the hæmorrhage occurring during the delivery of the child (full term) and after, but is any hæmorrhage from the uterus that is due to conception and occurring before, during, or after the expulsion of the contents of the pregnant uterus, whether it occurs at the first, second, third, or ninth month of gestation. When a hæmorrhage occurs before the end of the sixth month it is generally called hæmorrhage of a threatened abortion, or an abortion, and between this time and full term, a hæmorrhage due to a premature labor, and is only called a puerperal hæmorrhage after the beginning of the pains for the expulsion of the full-term child, and by most authors not until after the completion of the second stage of labor, and what they believe is the beginning of the puerperal state. This is, in my mind, erroneous. Take the derivation of the word puerperal: all the authorities give the same derivation from the Latin, to bring forth a child, of or pertaining to childbirth.

Hirst, in his text-book of obstetrics, says: "The puerperal state, or the puerperium, comprises the time from the termination of labor until the uterus has regained its natural size. This period in the normal case is six weeks. And in explanation of this belief, the word 'puerperium' comes from *puer*, a child, and *pario*, to bear, and denoted in the original Latin the childbed period, the lying-in period; so it is an appropriate term to designate this one of the periods in obstetrics—pregnancy, labor, the puerperium, and lactation."

I consider Hirst's classification of the four periods in obstetrics incorrect, and think they should be thus classified as three periods—which I shall try to prove later on:

1. Pregnancy.
2. The puerperal state (labor and convalescence).
3. Lactation.

Grandin and Jarman say: "The puerperal state begins with the expulsion of the placenta, which event terminates the third stage of labor."

The puerperal state does not begin between any of the three stages of labor, but at the very beginning of labor, which I shall prove.

King's *Manual of Obstetrics:* "The condition of being in 'childbed,' whether during or shortly after parturition, is known as the 'puerperal state' (from *puer,* a child, and *parere,* to bring forth)."

He is certainly correct in that; but King goes on and says, "The term, however, is generally restricted, nowadays, to a period of four or five weeks immediately following the completion of labor."

The following is taken from the *Century Dictionary:* "Puerperal (from Latin *puerpera,* bringing forth, a parturient woman; *puer,* a child; *parere,* bring forth, bear), of or pertaining to childbirth.

"Parturient, bringing forth, or about to bring forth, young.

"Parturition (L., *parturitus,* pp. of *parturire,* desire to bring forth, to be in labor), the act of bringing forth, or being delivered of young."

From the *Latin-English Dictionary,* abridged from the larger work of White and Riddle, by John T. White, D. D. Oxon., rector of St. Martin Ludgate, London: "*Puer-per-us, a, um,* adj. (from *puer-par-us;* fr. *puer; par-io*). Bringing forth children, lying-in, in childbed: uxor, Sen.; verba, formulæ that promote delivery, Ov. As subst.: 1. *puerpera, æ,* f. (sc. mulier), a woman in labor, or in childbed, a lying-in woman; Hor. 2. A woman who has recently brought forth; Pl. *puerperium, ii,* n. (*puerper-a*) (a thing pertaining to a *puerpera;* hence), 1. Prop.: childbirth, childbed, a lying-in, confinement, delivery; Plant.; Tac. ii. Meton.: A newborn child; an infant; children; Tac."

Puerperal is an English adjectival form of the Latin adjective *puerperalis,* meaning "pertaining to, caused by, or following childbirth."

In medical language it is always *febris puerperalis,* meaning "puerperal fever"; in non-medical language it is written *febris orta ex puerperio* (fever arising from childbirth), or *febris quæ puerperium sequitur* (fever which follows childbirth). Puerperalis is derived from puerpera, which, along with puerperium, is a compound of two Latin words, viz.: *puer,* child, and the verb *pario—parere—peperi—partum,* to bring forth (by birth).

Puerperium is a neuter noun of the second declension, meaning "the condition of a woman who is laboring, or (and) who has been delivered"; and also denotes the six weeks' period after delivery. To what period or periods is the term puerperal to be applied? From the beginning of labor pains, and including the first, second, and third stages of labor to six weeks following. Since *pario* means "to give birth to," or "bringing forth," the root of this verb has been compounded with *puer,* and has been applied (by nearly all authors) to a specified time following the expulsion of the child. But why limit the application in this manner? By what right shall we arbitrarily affirm that the adjectival term puerperal, "pertaining to childbirth," is to be limited or restricted in its application to this particular period? By considering the Latin word in its true meaning in the genius of its own language, rather than by an interpretation from a standpoint in our language, we shall secure a right conception of its proper signification. Let us deal first with the true meaning as conveyed in the Latinity of the word, showing clearly and indisputably its original signification; and, secondly, with the corresponding technical terms derived from these and recorded in medical language, and sanctioned by metonymy, figure of speech, etc.

Take, for instance, *partus,* a familiar form of the verb *pario. Partus* has, in a strictly original sense, two distinct meanings equally important. The first meaning—the one in common use—is "bringing forth" or "birth," from which is derived, by figure of speech, the technical term "parturition." Second, it means a "begetting," and the word is much used in this very sense in classical Latin; from this meaning are derived, by metonymy, such terms as young, offspring, as well as fœtus or embryo. Bearing in mind these two meanings, "begetting" and "birth," we turn to another Latin word, *satus,* to which is usually given the secondary meaning "offspring" or "child," while literally it means "one having been sown (as seed)," from the verb *sero,* meaning to sow seed. The connection between the sown seed and the child is obvious.

Again, the Latin word *genitus,* meaning in general terms "offspring" or "child," really means in a strict sense "one begotten," from the verb *gigno,* to beget. In each instance cited the Latin word for child has the original meaning to beget or to sow seed.

The logical conclusion based upon the correct meanings of words under consideration is that, when a woman conceives, she is with child. These Latin words—*pario,* as well as the others—do not necessarily imply a fully developed nine-months' child. On the other hand, the rational conclusion is that they refer to, designate, and may be applied to any stage or period of a woman's pregnancy, whether it be one, two, three, or nine months from the time of the "begetting (conception)." Hence, I believe that the Latin word in its true meaning supports the theory that the term "puerperal" is not to be restricted to a particular period of a woman's pregnancy; certainly no more to the producing or bringing-forth state of the full-term child than to the bringing forth of the one-, two-, or three-months fœtus.

I think I have proved from the Latin that the puerperal state should include from the beginning of labor o about six weeks after the completion of the labor—he time of recovery.

Now, in brief, the word puerperal comes from *puer*, a child, and *parere*, to bring forth—of or pertaining to childbirth. Then the word means to bring forth a child—of or pertaining to childbirth. When is a woman with child? As soon as she conceives she is certainly with child. To be with child certainly means to be pregnant.

Then the following is my belief: That the puerperal state begins as soon as the labor pains begin for the emptying of the pregnant uterus, and lasts until the uterus is emptied and the woman recovers from that pregnancy, whether it be at first, second, third, or ninth month of pregnancy.

Hæmorrhage beginning at the second, third month, etc., when it is due to the state of pregnancy, should be known as a puerperal hæmorrhage of the second or third month. A point might be made that if there is a hæmorrhage and the child (whether at full term or at any month) is not expelled and hæmorrhage is stopped, this would not be in the puerperium; it is because the hæmorrhage is due to the conception and the pains and hæmorrhage had begun, but by treatment they were stopped. The same as in puerperal convulsion that is due to pregnancy—it is called a puerperal convulsion at whatever month it occurs, but generally puerperal convulsions occur in the latter months of pregnancy, and more often during the labor—in the first stage; but if convulsions occur at the first, second, third months, etc., and you thought the convulsions due to the presence of the child, or embryo, or fœtus *in utero*, would you not call them puerperal convulsions, even if by treatment they were stopped? Also, in puerperal mania or insanity, is not the word puerperal used, even if mania or insanity occurs early in the pregnancy? So why draw the line at puerperal hæmorrhage if convulsions, mania, and insanity are classified as puerperal when they occur early in the pregnancy or during the labor?

Classification of Puerperal Hæmorrhage.—1. Ante-partum hæmorrhage: (*a*) Accidental hæmorrhage, or a normally situated placenta (subdivided into concealed hæmorrhage and free hæmorrhage) and (*b*) unavoidable hæmorrhage, from an abnormally situated placenta—placenta prævia.

2. Post-partum hæmorrhage.

Ante-partum hæmorrhage is a hæmorrhage occurring before the end of the second stage of labor.

Post-partum hæmorrhage is a hæmorrhage occurring after the end of the second stage of labor, and within a month or six weeks. If occurring a month or six weeks after the completion of the labor, it should hen be called a uterine hæmorrhage.

Accidental hæmorrhage is a hæmorrhage that is caused by an accident of any kind when a woman is in a state of pregnancy.

Accidental hæmorrhage is divided into a concealed and free hæmorrhage.

In a concealed hæmorrhage the blood is retained *in utero*. The hæmorrhage may be into the membranes or directly into the sac. The retained blood may bring on contractions, then a free hæmorrhage. If not free, then generally there is relaxation of the uterus. The patient may bleed to death without any external flow of blood.

Unavoidable hæmorrhage, due to an abnormally situated placenta — placenta prævia. Post-partum hæmorrhage, a very dangerous form and more frequent than any other, occurs after the second stage of labor, before or after the expulsion of the placenta.

The blood comes from the open mouths of the uterine blood-vessels, from which the placenta has, wholly or in part, been separated. If care is taken, the patient need not have hæmorrhage very often. In a natural labor the hæmorrhage is prevented by contraction of the fibres of the uterus and retraction of the mouths of the blood-vessels. Most cases of hæmorrhage occur while the placenta is *in utero*, between the end of the second stage of labor and the expulsion of the placenta. In most cases the blood escapes, but it may be retained in the uterus. The hæmorrhage is generally profuse, and the patient may bleed to death in a short time. The blood comes from large blood-vessels, both arteries and veins, the veins having no valves.

617 Third Avenue.

THE ÆTIOLOGY OF YELLOW FEVER.

ABSTRACT OF THE
REPORT OF THE COMMISSION OF MEDICAL OFFICERS,
MARINE-HOSPITAL SERVICE,
DETAILED BY AUTHORITY OF THE PRESIDENT
TO INVESTIGATE THE CAUSE OF YELLOW FEVER.*

The report embodies the work of the commission in fairly testing the claim of Professor Sanarelli, of Bologna, Italy, that the *Bacillus icteroides* is the cause of yellow fever, and the conclusion is drawn that this famous scientist has isolated the true cause of the terrible scourge.

This conclusion is based upon a careful bacteriological study, in the well-equipped laboratory of the Marine-Hospital Service in Havana, Cuba, of twenty-two cases of disease thought to be yellow fever by the native physicians in attendance.

Of these cases all were seen during the progress of the disease, and in fourteen of them the commission concurred in the diagnosis.

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* Under date of November 8, 1897, Passed Assistant Surgeon (now Surgeon) Eugene Wasdin and Passed Assistant Surgeon H. D. Geddings were detailed by authority of the Secretary of the Treasury and the President as a commission to investigate in Havana the nature of yellow fever. Their full report, dated July 10, 1899, has been received, and is printed as a separate publication.

Each case was the subject of careful bacteriologic study before and, if practicable, after death. This consisted in the abstraction of blood in sterile bulb tubes from the ear tip under careful asepsis. This blood was then diluted in the bulbs with meat-peptone bouillon, and after an incubation of twenty-four hours the growth was transplanted to fresh tubes of bouillon, from which, after twenty-four hours, Petri plates were made in series. From these the organisms present in the blood were isolated in pure cultures and studied. After isolation each organism was subjected to cultural examination on all media, by means of which those meeting the demands of Sanarelli for the organism he discovered were readily selected and their pathogenicity for animals established.

Of the fourteen cases diagnosticated as yellow fever, the commission isolated the organism of Sanarelli, the *Bacillus icteroides*, from thirteen, and in the case in which this organism escaped the observation of the commission it was isolated by an independent observer, for whom tube cultures had been taken at an autopsy conducted by the commission.

Thus the even percentage of isolations has been obtained in these fourteen cases, all of which presented prominent symptoms of the disease. In the cases not thus diagnosticated the organism of Sanarelli was not obtained.

From the living blood in twelve of the fourteen cases, abstracted not earlier than the third day of the disease, the organism was isolated, and in the two others it was obtained post mortem.

The commission, having preserved a number of cultures made at the isolation hospital in the city of New Orleans, from cases seen during the epidemic of 1897, also isolated therefrom the *Bacillus icteroides* in the proportion of 83.33 per cent. of the cases examined, the cultures having been made at autopsy.

Thus the identity of the *Bacillus icteroides* of our Southern States with that found in Cuba, and that sent the commission by Professor Sanarelli, which was obtained in South America, was established.

As a check to these examinations the commission made use of a number of cases suffering from diseases other than yellow fever, from which the blood, extracted in the same manner and treated in the same way, failed to yield any organism at all comparable to Sanarelli's. These diseases were representative of those usual to the city of Havana, and were seen during the same period of time in which the cases of yellow fever were under observation.

Also there were thirty-one dead bodies examined, bodies dead from known and unknown diseases, many of them in the city morgue, the most of them in the Spanish military hospitals. In each instance careful section was made and the blood from the heart, from the liver, the spleen, and the kidneys, urine, and fæces planted directly into bouillon or upon agar-agar slant tubes, from which cultures series of plates were made.

All bodies thus examined, at times many hours after death, yielded colonies of various organisms, save one, and this case at the time of autopsy was diagnosticated pathologically as yellow fever, and the body was sterile.

In none of these cases of comparative autopsic examination was the *Bacillus icteroides* found; neither in the blood, the urine, nor the fæces. Therefore, the commission assumes that the organism of Sanarelli is found only in bodies sick with or dead from the disease of yellow fever, at the same time conceding that in many of the sick the blood does not yield the germ, and that in the dead it may prove absent only under certain conditions.

Coincident with the foregoing observations the commission carried on the study of the natural history of the organism as to its mode of entering the body; its colonization therein; its toxic possibilities, and its distribution in the organs post mortem.

Numerous and interesting experiments were made with animals, the commission finding all the animals at its command, such as mice, rats, dogs, cats, guinea-pigs, rabbits, and monkeys, quite susceptible to the artificial infections produced by inoculating them under the skin, intraperitoneally, and endovenously. At the same time it became convinced that the same or very similar results were obtainable by the use of other organisms of different kinds. It found, as had been stated by Sternberg, that similar clinical and anatomical results could be found after the artificial administration of the *Bacillus X*, as well as that of Havelburg, and of the *Bacillus coli communis*, all of which proved, artificially exhibited, very pathogenic to all animals, and autopsies upon these revealed similar conditions in the organs. Moreover, the toxines elaborated *in vitro* by the above-named organisms, X, Havelburg, coli communis, and icteroides, were precipitated, purified, and tested comparatively upon animals, with the result that the commission decided that the *mode of death* from these toxines, when injected into animals, *was the same in kind*, and that the toxines differed only in intensity, and that of these the *Bacillus icteroides* produced the most potent.

From these facts the commission, early in their work, became convinced that the claim of Professor Sanarelli, of having discovered the germ of yellow fever, was not established by any evidence presented in his published works, and that it was not tenable so long as it could be maintained that the bacillus of Havelburg and the bacillus X of Sternberg produced the same pathological conditions when artificially inoculated, and the commission recognized the validity of this claim in view of the facts given above, although it had for a long time recognized both of these organisms as belonging to the colon group.

At this stage of its work the solution of the problem seemed very remote, but before turning to some other and unknown cause of this disease it was determined to place experimental animals under *natural conditions of infection,* since it was recognized that all preceding experimental work was so artificial that it was impossible for the commission to judge of the pathogenic, or rather *specific,* merits of the three prominent organisms.

From this animal experimentation the commission proves the *natural specificity* of the organism of Sanarelli; the absolute *innocuousness* of the *Bacillus coli communis,* of the *Bacillus X,* and of the bacillus of Havelburg, to even the most susceptible of animals; and a marked degree of similarity in the reaction of these animals (mice) to the *acute infectious organisms,* such as *Bacillus typhosus* and *Bacillus choleræ suis,* when exhibited to them naturally. The Sanarelli organism is thus eliminated from the colon group and associated with the acute infectious organisms.

The commission recognized that Sanarelli's claim was *only* one of pathogenicity and not of *specificity;* that until such demonstration of specificity there could be no *valid* claim for his organism. This validity the commission believes to have established in the conclusion that the *Bacillus icteroides* is "naturally infectious to animals, the degree varying with the species; that in some rodents local infection is most quickly followed by blood infection; and while in rabbits and dogs there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man."

The commission has determined "that the infection takes place by way of the respiratory tract," and that the primary colonization in the lungs is responsible for the first evidences of absorptive intoxication, such as fever, pains, etc., characteristic of the disease. Also that this primary colonization in the lungs and its poison symptoms may constitute the *entire attack* of the disease in many instances, an attack so light, so ephemeral, that even the most expert diagnosticians may not distinguish it from other ephemera, or from poorly marked attacks of allied diseases, such, for instance, as *dengue.*

Moreover, the conclusion has been reached that what is known in the literature of yellow fever as the "reactionary fever," the "secondary infection" (from micro-organisms normal to the body), and the "secondary paroxysm," is due to the passage of the infecting germ, the *Bacillus icteroides,* from its primary colony in the lungs into the general circulation, thus producing the "secondary paroxysm" so familiar clinically in all marked cases, unless they are of the *siderant* type.

This "secondary paroxysm" is, then, a septicæmic one, and it depends not upon the *Bacillus coli communis,* or *Bacillus proteus,* or upon the micrococci, but upon the further colonization of the specific organism in the blood, thus bearing out Faget's observation that the "*decline" of the fever,* the true "*secondary paroxysm,*" is as *specific* as the "rise," or the primary attack.

The commission recognizes the coincident invasion of the blood by the organisms of the respiratory tract, among which are found colon and proteus, as of possible, it may be frequent, occurrence; or these may invade from the alimentary canal "during the last hours of life," when the mucosa becomes impaired from stasis, and this invasion becomes possible. Such mixed septicæmia must be of most severe type and frequently fatal.

The commission, therefore, differs entirely with Professor Sanarelli in his theory that the disease of yellow fever is primarily a septicæmia. Indeed, it can scarcely be a matter of surprise that Sanarelli formulated this opinion, seeing that he always produced, with (as he thought) unimportant exceptions, *artificial infections* by internal inoculations, which perforce must have produced septicæmia. Those cases not open to such explanation, which he observed in man, he explained in a still more unsatisfactory way; in fact, by the assumption that the germ elected to hide away in the spleen in small numbers during the *whole course* of the disease, only to suddenly come forth and produce a septicæmia at its termination.

The commission, therefore, concludes that the theory of Sanarelli in this regard is not sustained by the facts of these cases, and offers the foregoing solution of probably the most widely and generally observed characteristic of yellow fever, the "secondary paroxysm" characterized by a septicæmia.

The theory formulated and expressed by Dr. Sternberg, United States Army, that the "germinal principle" in yellow fever was to be looked for in the alimentary tract, an opinion evidently dependent upon the well-known influence of the disease upon the organs adjacent and contributive to this tract and portions of the tract itself, such as the duodenum, has been found untenable by the commission, since there is no record of any one ever having isolated the specific germ from this canal save in the case of its presence there through some capillary hæmorrhage into its lumen.

The influence of the various disinfecting agents upon the *Bacillus icteroides* has been studied by the commission with an eye to the practical advantages to be derived from a better acquaintance with the organism, and it is found that the organism is readily influenced by the mechanical and chemical agents in ordinary use. Cold, however, is not a factor in this process, for the organism resists the most extensive refrigeration, and no reliance can be placed on this mode of disinfection. On the other hand, the organism is very susceptible to dehydration, and can not withstand artificial drying for more than ten to twelve days, and it is very probable that its susceptibility to *frost* is due to the lessened humidity of the atmosphere at such seasons rather than to the degree of cold experienced. Sunlight is very fatal to this organism, and no doubt is more so if the organism has lost its vitality through evaporation of its fluids, as in a frosty atmosphere.

The resemblance between the *Bacillus icteroides,* in its behavior on certain media, and the bacillus of hog cholera has been brought to the attention of the commission, and it has deemed the observation that there is a possible similarity in the pathogenicitiy of the two organisms in the domestic hog of great importance, although its experience in the observation of the cultural similarities leads to the conclusion that they are culturally distinct; while the infection of the domestic hog, in its experience, is impossible by the method pursued of feeding the *Bacillus icteroides* to them.

However, the question being of too much importance to be determined without full data, the commission placed under treatment a number of domestic hogs, in an environment free from suspicion of the possibility of any contamination with the *Bacillus choleræ suis,* with a view to deciding the question of the reaction of these animals to the *Bacillus icteroides,* administered to them in pure cultures in their food. These experiments were conducted at the United States Quarantine Station at Delaware Breakwater, and therefrom it is deduced, first, that the domestic pig is incapable of infection from the *Bacillus icteroides* when introduced through the intestinal or digestive tract, and second, that the *Bacillus icteroides,* when fed to pigs, will not produce any of the lesions or intestinal symptoms of hog cholera.

CONCLUSIONS OF THE COMMISSION.

1. That the micro-organism discovered by Professor Giuseppe Sanarelli, of the University of Bologna, Italy, and by him named "*Bacillus icteroides,*" is the cause of yellow fever.

2. That yellow fever is naturally infectious to certain animals, the degree varying with the species; that in some rodents local infection is very quickly followed by blood infection; and that, while in dogs and rabbits there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man.

3. That infection takes place by way of the respiratory tract, the primary colonization in this tract giving rise to the earlier manifestations of the disease.

4. That in many cases of the disease, probably a majority, the primary infection, or colonization in the lungs, is followed by a "secondary infection," or a secondary colonization of this organism in the blood of the patient. This secondary infection may be complicated by the coinstantaneous passage of other organisms into the blood, or this complication may arise during the last hours of life.

5. That there is no evidence to support the theory advanced by Professor Sanarelli that this disease is primarily a septicæmia, inasmuch as cases do occur in which the *Bacillus icteroides* can not be found in the blood or organs in which it might be deposited therefrom.

6. That there exists no causal relationship between the *Bacillus X* of Sternberg and this highly infectious disease, and that the *Bacillus X* is frequently found in the intestinal contents of normal animals and of man, as well as in the urine and the bronchial secretion.

7. That, so far as our commission is aware, the *Bacillus icteroides* has never been found in any body other than one infected with yellow fever; and that whatever may be the cultural similarities between this and other micro-organisms, it is characterized by a specificity which is distinctive.

8. That the *Bacillus icteroides* is very susceptible to the influences injurious to bacterial life; and that its ready control by the processes of disinfection, chemical and mechanical, is assured.

9. That the *Bacillus icteroides* produces *in vitro,* as well as *in vita,* a toxine of the most marked potency; and that, from our present knowledge, there exists a reasonable possibility of the ultimate production of an antiserum more potent than that of Professor Sanarelli.

REPORT OF
SIX CASES OF PNEUMONIA TREATED WITH ANTIPNEUMONIC SERUM.*

By ANTONIO FANONI, M.D.

IN the number of the *New York Medical Journal* for May 7, 1898, I published a report of a case of pneumonia which I had treated successfully with the antipneumonic serum. As a result, I have received a number of inquiries from physicians all over the country about the technique of injecting the serum, and concerning the quantity which should be used in the most severe cases. Since then I have had under my observation five additional cases of the disease.

Before giving the histories of these patients I will briefly describe the technique of injecting the serum.

The anti-pneumonic serum was discovered by Professor Pane, of the Royal University of Naples, and was first introduced to the medical world in a paper which Dr. Pane read before the Royal Academy of Medicine of Naples in 1897.† The serum was first tried in Professor De Renzi's medical clinic in Naples, and gave very promising results.

The serum is prepared in two strengths—No. 1 is mild, and No. 2 is more concentrated and stronger. The first is used in the milder cases and early in the disease, while the second is reserved for the more severe types of pneumonia. In the most malignant cases the dose should be doubled or even tripled. The writer was surprised at the results which he obtained in some of his own cases, for they were in several instances of a most desperate character.

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* Read before the Italian Medical Society of the City of New York, June 22, 1899.

† Estratto dagli *Atti della R. Accademia medico-chirurgica di Napoli,* year li, No. 3, 1897.

The best site for the injection is along the posterior axillary line. The injection is given twice a day, say at 8 or 9 A. M., and again between 8 and 10 P. M. The usual dose is ten cubic centimetres at each injection. The syringe used may be a large hypodermic, and it is well to sterilize the instrument before each injection by washing in a four-per-cent. solution of carbolic acid. The skin must also be disinfected by means of a solution of bichloride of mercury ($HgCl_2$ 1, H_2O 1,000, and HCl 10) applied on a piece of absorbent cotton. It is best to make the first injection in the posterior axillary line, between the eleventh and twelfth ribs, so as to leave a sufficient space for later injections. The puncture is covered by a thin layer of cotton soaked in the bichloride solution. The patient is then placed upon the side where the injection was made, and remains in that posture for about ten minutes, so as not to displace the cotton.

By these means the occurrence of suppuration is avoided. I may state, however, that in some cases I did not use any antiseptic measures on the skin either before or after injection, and yet there was no sign of sepsis.

The injections should be used regularly, both in the morning and in the evening, while the fever exceeds 104° F. If the fever subsides and there are no asthenic symptoms, we may suspend the injections, and thus save the patient the expense of serum treatment. But if the temperature rises again, we have to resume the injections. When the fever remains under 104° F., and there are other severe general symptoms, it will be necessary to continue the use of the serum until the patient's condition begins to improve.

Where the serum is used, all other medication must be omitted, and only the hygienic measures to be described later should be employed. The daily diet should comprise a litre and a half or two litres of milk and one or two cups of broth, with the yolk of an egg. In addition, the patient may be given some alcohol and water. De Renzi gives thirty grammes of alcohol in five hundred of water on the first day, thirty-five on the second, and so on, until sixty or seventy grammes in twenty-four hours are reached. This last dose is never exceeded.

Personally, I have never given this stimulant unless the necessity for such a measure was very apparent.

In asserting that this serum is a safe and reliable remedy in the treatment of pneumonia, the writer was by no means actuated by patriotism, but by a conviction born of his own experience.

The best proof of its efficiency is the fact that it has been used with success when death was expected within twenty-four hours. But if the pre-agonistic stage is reached—*i. e.*, when septicæmia had set in—there is no hope for the patient even in serum therapy.

The success which has attended the use of this remedy in Italy makes it possible to state that the De Renzi Pane's serum is a positive specific in the treatment of pneumonia. Among those who have tried the remedy with good results are the following directors of medical clinics connected with Italian universities: Massalongo, of Verona; Maragliano, of Genoa; Cantieri, of Siena; Belfanti, of Milan; Bozzolo, and many others.*

The serum has also been used in lobar pneumonia, in idiopathic meningitis, in epidemic cerebro-spinal meningitis, in pleurisy, pericarditis, peritonitis, etc., as in all these diseases the pneumococcus has been found at one time or another by various investigators.

Since 1898 I have used it in six cases of pneumonia in my private practice, and have obtained a remarkable series of successes.

There is a great deal of satisfaction in the knowledge that we now have a remedy which attacks the cause of the disease, and that it is no longer necessary to witness the progress of pneumonia with the feeling that we are powerless and can do nothing except to try to stimulate the heart, to give expectorants, and to attempt to reduce the temperature by some antipyretic measure.

The mortality of pneumonia is certainly considerable, and I firmly believe that the serum would have been a blessing to many a family from whom this disease has taken away a dear one. I would therefore urge my fellow practitioners not to give up a case of pneumonia until they have tried this means of treatment. In fact, I hope there may come a time when it will be regarded as the principal, if not the sole, remedy in this disease.

Case I.—A. T., aged thirty-seven years; the patient had been ill with influenza for four days, and was suddenly seized with a chill, fever, a severe pain in the left side of the chest, and difficult respiration. I saw the patient four days later, and found the physical signs of a lobar pneumonia in the inferior lobe of the left lung. The temperature was 104° F., the respiration 46, the pulse 116. There was dry cough with rust-colored sputum. At four o'clock on the same day (February 27, 1898) I injected ten cubic centimetres of serum No. 1, which had been sent to me from Naples two days previously. At 9 P. M. the temperature was 103° F., the respiration 40, and the pulse 112. The subjective symptoms were somewhat less marked.

February 28th, at 10 A. M., the temperature was 102.5°, the respiration 36, the pulse 106. Second injection of ten cubic centimetres of serum No. 1. At 9 P. M. the temperature was 103° F., the respiration 41, and the pulse 114. Third injection March 1st. At 11 A. M. the temperature was 102°, the respiration 34, pulse 100. Fourth injection. At 9.30 P. M. the temperature was 101°, the respiration 31, the pulse 90.

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* IX. Congresso di medicina interna, tenuto in Torino, Ottobre, 1898. Estratto dalla *Nuova rivista clinico-terapeutica*, fasc. 11, 1898.

Fifth injection. General condition good and physical signs show beginning of resolution.

March 2d.—The patient felt fairly well, and rested better than the preceding nights. The temperature was 102° F., the respiration 34, the pulse 92. Sixth injection. At 9 p. m. on the same day the temperature was 101.5° F., the respiration 31, the pulse 86. Seventh injection. Auscultation shows the presence of subcrepitant râles.

3d.—At 10 a. m. the patient's breathing was normal. She passed a quiet night, and had scarcely any cough. Temperature, 98° F.; pulse, 76; breathing, 31.

The temperature was subnormal for the next three or four days; the general condition showed a quick and progressive resolution of the pneumonic process.

Case II. — A. C., aged thirty-seven years; was seized at night with acute lancinating pains in the left side of the chest. A physician who was called declared that he had an acute lobar (croupous) pneumonia. Another physician was next consulted and told the family that the patient had a very severe pneumonia, and that he had better be taken to the hospital, as he could not receive the proper amount of care at home.

On the fourth day I was called to his bedside. I found a lobar pneumonia involving the inferior lobe of the left lung. The temperature was 104° F., the pulse 115, the breathing 44. A dry hacking cough, with scanty rust-colored sputum. There was pronounced dyspnœa. I injected ten cubic centimetres of the serum. The patient was restless during the night; the cough became more violent, with efforts at vomiting. On the following morning the temperature was 102.5° F., the pulse 110, the respiration 42. The tongue was dry. Second injection.

On the next day the patient reported that he had rested well that night. Temperature, 100.5° F.; pulse, 103; respiration, 38. The patient felt a great deal better, and there was a noticeable improvement in the pneumonic process. The physical signs showed beginning of resolution. Third injection. In the evening the fever was 101.5°, the pulse 103, respiration 40. The patient rested well the following night.

On the next morning at 10 o'clock his temperature was 98° F., the pulse 96, the respiration 36. The physical examination showed the presence of *redux crepitus*.

On the following day the general condition was fair. The pulse was still small and rapid, but it was restored to normal by means of stimulants. Six days later the patient was perfectly well.

Case III.—G. R., forty-two years old, laborer; was suddenly seized with a severe chill, with fever and acute pain in the right side below the angle of the scapula. I was called on the fourth day after the chill. The patient was very much prostrated; he had delirium and dyspnœa. At 4.30 p. m. the temperature was 102.5° F., the pulse 98, the respiration 48. He had a dry cough, without expectoration, and a dry tongue. On physical examination there were found dullness at the inferior right lobe and very fine pleuritic crepitus. I made the diagnosis pleuro-pneumonia. At 6 p. m. I saw the patient again. The temperature was 103.2°, the pulse 100, the breathing 50. I made the first injection with serum No. 1. At ten o'clock on the same day the patient's condition was the same. On the following day, at 9 a. m., the patient said that he was very much prostrated; he had passed a very bad night, suffering from delirium and intense dyspnœa. He had had three diarrhœal movements of the bowels during the night. Temperature, 102° F.; pulse, 96; breathing, 60. Auscultation revealed crackling râles in a limited area. He had cough, with scanty, rusty, viscous expectoration streaked with blood.

At ten o'clock the patient was worse; the tongue dry and rough. Temperature, 103.5° F.; pulse, 98; breathing, 50. I injected ten cubic centimetres of serum No. 2.

At nine o'clock on the next day the temperature was 103.5° F., pulse still 98, breathing 62. The patient reported that he had had during the night a severe pain above the nipple on the right side. I found that the pneumonic process was extending to the superior lobe. This certainly accounted for the rising temperature and the aggravation of the general symptoms. I again injected ten cubic centimetres of serum No. 2. At eight o'clock in the evening the temperature was 103.5°; pulse, 102; breathing, 60.

The condition of the patient was so serious that the family where he was boarding proposed sending him to the hospital, as they did not like to see him die in their house. I objected to this, as I had not entirely abandoned hope, and injected another dose of serum. At 9 a. m. the next day the patient was somewhat improved; he had passed a better night than the preceding ones. Temperature, 103° F.; pulse, 102; respiration, 58.

Although the patient was in the sixth day of his disease, and the danger was increasing, he did not seem to lose any ground. I injected twenty cubic centimetres of serum (ten cubic centimetres of serum No. 2 and ten cubic centimetres of No. 1). While all the serum which I had used thus far had been prepared six months before, the serum No. 1 used in the last injection was dated only four months previously. Serum loses all its efficacy five months after its preparation, and this was the cause of the failure of the first injections in this case. Owing to this, I had lost some very valuable time.

At three o'clock the temperature was 103.8° F.; pulse, 112; breathing, 60.

At nine o'clock p. m. the temperature was 104° F.; pulse, 112; breathing, 62. I again injected twenty cubic centimetres of serum (ten cubic centimetres of No. 2, six months old, and ten of No. 1, four months old).

At nine o'clock the next morning the patient's condition was not worse. The night had been fair; temperature, 103.5°; pulse, 122; breathing, 60. I injected twenty cubic centimetres of serum as on the preceding day. At 1 p. m. the temperature was 104°; pulse, 126; breathing, 60. At nine o'clock the temperature was 103.5°; pulse, 136; breathing, 64. I injected twenty cubic centimetres of serum. I noticed some râles in the middle lobe of the right lung. The patient was feeble, and I ordered some wine, besides the alcohol that I had already been using for the last few days. The tongue and the throat were so dry that he spoke with difficulty.

At 9 a. m. the next day the temperature fell to 102° F.; pulse, 124; breathing, 54. The patient had passed a quiet night. Râles were heard over the entire affected side. There was little cough with scanty expectoration. The general condition was much improved.

At 9 p. m. there were evidences of resolution. Temperature, 101.5° F.; pulse, 132, intermittent; breathing, 46. I prescribed some strychnine and injected some caffeine.

On the following day, at 11 o'clock A. M., the general condition was very good. Temperature, 100° F.; pulse, 98; breathing, 36. On the next day, at noon, the temperature was normal; pulse, 84; breathing, 28. The convalescence was somewhat prolonged.

This case was a characteristic one, as it demonstrated, as I have said, the inefficacy of the serum six months after its preparation. That inefficient serum did not prevent the extension of the disease, while the small quantity of the serum No. 1, four months old, saved the patient from a probable death. On account of the gravity of the case, on the sixth day of the disease, I ought to have injected forty or fifty cubic centimetres of efficient serum, but I only gave the usual dose, believing that it would be sufficient. This case, and the information given me later by the discoverers, shows that the serum positively loses its efficiency after five months. The makers have arranged to exchange packages of serum which are older than five months for fresh ones.

CASE IV.—G. M., twenty years old, barber, had chills and pains in the right hypochondrium, high fever, slight dry cough, difficulty of breathing.

He had been ill for six days when I was called. Before I came he had been treated with the usual remedies by two other physicians. When I was requested to attend him his general condition was very much depressed. I noticed tympanitic dullness at the inferior right lobe; crepitant râles, bronchial breathing, dry cough, with scanty rusty expectoration; temperature, 103.5° F.; pulse, 115, feeble and compressible; breathing, 36. I injected some caffeine, and twenty cubic centimetres of serum No. 2. I prescribed some alcohol, according to the advice of Professor De Renzi and Professor Pane. In addition, I ordered milk and broth to be given during the night.

Next morning, at nine o'clock, I was surprised to find the patient in very fair condition. Pulse, 102; temperature had fallen to 99° F.; breathing, 30. The physical signs were also improved, with râles indicating resolution all over the affected area. The crisis had come. That night the temperature was 98° F.; pulse, 90; breathing, 28. General condition very good.

The temperature was subnormal for three days more, and the pulse gradually became normal. The convalescence was somewhat tedious and difficult, but some time after the man could resume his work.

CASE V.—M. C., forty-five years old, married, had an attack of influenza, and a few days later she had acute pains on both sides of the chest, with chills and high fever. Dr. Joseph Tanner was called and found a bilateral lobar pneumonia. He told the family that the disease was of the most serious character and that the patient could hardly recover.

On the third day of the disease I was called to attend the patient. I confirmed Dr. Tanner's diagnosis. The general condition was low; there was dullness at both inferior lobes of the lungs with diminished expansion. At one point some râles were heard; the temperature was 104° F.; pulse, 108; breathing, 36.

At 7 P. M. I saw the patient again. The general condition was unchanged. Temperature, 104.5° F.; pulse, 110; breathing, 36. I injected ten cubic centimetres of serum No. 2, four months old. At twelve o'clock on the next day the general condition was improved. The cough that was dry and troublesome is now accompanied by abundant expectoration of the characteristic color, and is less viscid than before; temperature, 101°; pulse, 105; breathing, 32.

I again injected ten cubic centimetres of the serum. At six o'clock the temperature was 102.5° F., the pulse 106, the breathing 33. Third injection. On the next day at eleven o'clock the temperature was 101.5°, pulse 120, breathing 38. The general condition is satisfactory. The patient had rested well that night. Fourth injection of serum No. 2. At four o'clock P. M. the temperature was 102° F., pulse 116, breathing 38. Fifth injection of serum. On the next day at twelve o'clock the temperature was 102° F., pulse 110, breathing 35. Sixth injection of serum. At 6.30 P. M. the temperature was 103.5° F., pulse 116, breathing 38.

On the next day, at twelve o'clock, the general condition was good. The night had been passed well. The temperature was 100.8° F., pulse 112, breathing 32. Seventh injection of serum. At 2 P. M., temperature, 102° F.; pulse, 114; breathing, 32. At 6 P. M. the temperature was the same; pulse, 116; breathing, 33.

On the following day, at twelve o'clock, the general condition was low; temperature normal, small and compressible intermittent pulse, rate 120. Râles indicating resolution at both pulmonary bases, with an abundant expectoration. The apex beat very feeble. On the next day the condition was unchanged. The patient could not recover strength, notwithstanding the tonics which she had been taking. Temperature normal; pulse, 120; breathing, 30.

The patient was in full convalescence, but her heart gave me some apprehension. I told the family to immediately summon me if anything happened. After six days, at seven o'clock in the morning, I received a telephone message to the effect that the patient had severe præcordial pain and dyspnœa. An hour later I found the patient dead.

Her death was certainly caused by pericarditis, or more probably endocarditis, which is frequently a sequel to pneumonia. The woman was very stout, and the family said that she had suffered from shortness of breath, when she was going upstairs, even before her illness.

CASE VI.—P. P., laborer, married, forty-eight years old, was suddenly seized in the night with fever and severe chills. In the morning he felt a stabbing pain in the left breast, which extended to the back. Two physicians were called in, and only one of them recognized the pneumonia. He applied dry cups and prescribed an expectorant.

I visited the patient on the third day. At eleven o'clock the physical examination revealed a diminished expansion, exaggeration of the pulmonary voice, with the typical crepitant râles, and dull tympany on percussion. Temperature, 103.5° F.; pulse, 100; breathing, 30. I informed the family that the only specific remedy was the serum, and that all other remedies were to be suspended.

Dr. W. T. Wright, who desired to see a case treated with the serum, accompanied me. At six o'clock he examined the patient and made the same diagnosis of lobar pneumonia. The temperature had risen to 104.5° F.; pulse, 102; breathing, 31. I made an injection of ten cubic centimetres of serum No. 2, prepared on March 1st. There was delirium and severe prostration.

On the next day, at 9 A. M., the patient's wife informed me that he had been resting quietly during the preceding night for the first time since he became ill. There was a dry, hacking cough, with more abundant and less rusty expectoration. During the physical examination he got an attack of epistaxis, which stopped after a short time. Temperature, 104.5° F.; pulse, 102; breathing, 32. I injected ten cubic centimetres of serum.

At four o'clock the temperature was the same; pulse, 100; breathing, 32. At 8.30 P. M. the temperature had fallen to 102.8° F.; pulse, 98; breathing, 30. The patient felt better and drank with pleasure two litres of milk. In presence of this improvement the family regained hope. The general condition of the patient was very satisfactory. The auscultation revealed râles over the left lobe, and the pneumonic process, which threatened to extend, remained stationary.

I injected twenty cubic centimetres of serum No. 2. On the next day, at nine o'clock, the patient stated that he had passed a good night. The general condition was unchanged. Temperature, 103°; pulse, 105; breathing, 36. I injected ten cubic centimetres of serum. At five o'clock the general condition was so much improved that the patient said he was well, and asked for something to eat. Temperature, 102.5° F.; pulse, 95; breathing, 29.

At 8.30 P. M., temperature, 102.2° F.; pulse, 94; breathing, 28. The patient had a good appetite, and two yolks of eggs were given him.

I made the sixth injection of serum. On the next day the patient stated that he had slept well throughout the night. General condition very good. Temperature, 100° F.; pulse, 80; breathing, 26. Expectoration nearly white. I did not inject any more serum, as the pneumonic process was undergoing resolution.

At eleven o'clock Dr. Wright and Dr. Tanner examined the patient, whom they had not seen since the third day of the disease, when the first injection was made. The doctors were surprised at the splendid results of the serum.

At 5 P. M., temperature, 100° F.; pulse, 78; breathing, 26.

At 8 P. M., temperature, 99° F.; pulse, 78; breathing, 26.

On the next day the temperature was normal; all other symptoms were improved. General state very good. The convalescence in this case was very short, and a few days later the patient could resume his work.

The quantity of serum used in these cases was from a minimum of twenty cubic centimetres to a maximum of one hundred and twenty cubic centimetres.

In some of them only the serum No. 1 was used, in others only the No. 2, while in still others both strengths were given.

The resolution in these cases was as follows: First case, eighth day, by lysis; second case, sixth day, by lysis; third case, tenth day, by lysis; fourth case, seventh day, by crisis; fifth case, seventh day, by lysis; sixth case, sixth day, by lysis.

In making a report of these cases I have simply desired to make known my personal experience with this remedy; for, while my own cases were few in number, they tend to swell the list of successful cases already reported by my *confrères* in Italy, and our combined observations lead me to draw the following conclusions:

1. That Pane's antipneumonic serum is the rational remedy in pneumonia, as it constitutes the specific treatment, the same as Behring's antitoxine does in diphtheria.

2. That injections with this serum are not painful, are simple to administer, and do not produce any general or local reaction.

3. That serum over five months old is no longer active and produces no results, although it does no harm; and after it is four months old it begins to lose strength, and the amount given after this time should be increased in proportion as the date of the preparation of the remedy is removed from the date of administering up to the fifth month.

4. That the serum will not do harm, even if given in doses of one hundred to one hundred and fifty cubic centimetres in twenty-four hours.

5. That the serum in all these cases under my observation has shown wonderful efficacy, not only in producing rapid improvement of the general condition, but in hastening resolution in case it is given early in the disease.

6. That in any lobar pneumonia, especially if the prognosis is grave, it is the duty of the physician to use this serum, and if he fails to do so there is no excuse for such an act, except ignorance of the work that has been done in the field of the serum therapy of pneumonia.

The serum is sold in New York at the Kalish pharmacy, Twenty-third Street and Fourth Avenue.

66 West Tenth Street.

A REVIEW OF THE SEVERAL OPERATIONS FOR HÆMORRHOIDS:

THE BEST OPERATION.

By J. COPLIN STINSON, M. D.,
SAN FRANCISCO.

In an article on the best operation for hæmorrhoids published in the *New York Medical Journal*, November 5, 1898, I reviewed the several operations for hæmorrhoids and stated my reasons for preferring the individual (immediate) excision method with ligation of bleeding vessels only. While satisfied with this operation, I have since decided to try to improve some points in the technics in order to save time, to lessen the number of the assistants, and also to bunch the steps of the operation. The following improvements in the technics of excising internal hæmorrhoids make the operation perfectly satisfactory.

The internal hæmorrhoid is grasped with forceps and drawn down well into view, exposing its base; estimate the amount of tissue that should be left after excision is done, so that the cut edges can afterward be sutured accurately without tension. Apply a broad-ligament forceps to the base of the pile, the direction of the blades corresponding to the long axis of the bowel, draw the pile out well, and force the forceps down on the wall of the rectum so as to include as much of the base as possible. Now close the forceps and lock it tightly. Cut off the pile, leaving only enough of the tissues on the surface of the forceps so that the open mouths of vessels can be located and separately ligated, and the cut edges be accurately stitched with continuous sutures of medium-sized catgut. Remove all other piles in a similar manner; finally take off the forceps in the order in which they were applied. Under such circumstances the forceps are temporary hæmostatics, levers, and tractors, and thus an addition to the immediate excision method. These uses of the forceps save time, enable the operator to perform his work quickly, with few manipulations, and without the aid of assistants. Thus the surgeon overcomes the slight inconveniences of the immediate excision operation—*i. e.*, the necessity of having (1) to introduce a broad Sims speculum into the rectum in order (2) to locate, clamp, and ligate the bleeding vessels in the rectum, and (3) to pick up with forceps the cut edges so that they can be sutured.

Broad-ligament forceps have heretofore been used by some surgeons in hæmorrhoidal operations.

I have used them in my last six cases (since December, 1898) as here described and with perfect satisfaction. I had previously used forceps as temporary hæmostatics, levers, and tractors, in the enucleation method of ovariotomy, salpingectomy, etc., without ligation, clamp, or cautery, when the enucleation of the ovary or tube, etc., was somewhat difficult. Under such circumstances the forceps are an addition to the enucleation method. (*Medical Record*, February 13, 1897; *American Gynæcological and Obstetrical Journal*, October, 1898.)

326 Kearny Street.

Therapeutical Notes.

Tang-kin in Amenorrhœa and Dysmenorrhœa.—Hirth (*Münchener medicinische Wochenschrift*, June 6th; *Medical and Surgical Review of Reviews*, July) says that the root of tang-kin, also known as kan-kin, schan-ki, and wön-wu (man-mo), has been used with good results by the Chinese for centuries in case of abnormal menstruation, especially amenorrhœa. The writer obtained a large supply in Chungking, in western China, in May, 1895, and brought it to Europe. It was examined pharmacologically by Heinz, of Munich, who found the extract non-poisonous, and not an abortifacient. Müller has given the drug an extended trial in cases of amenorrhœa and dysmenorrhœa, with favorable results. The writer believes that in this drug a valuable remedy will be found for the disturbances of menstruation. Extractum radicis tang-kin has now been placed on the market under the name of "emuenol" (eumenol?).

Applications for Pruritus.—The *Progrès médical* for July 15th credits the following formulæ to R. Bonnier:

1. ℞ Gelatin	150 parts;
Purified gelatin (*grénetine*)	100 "
Gum arabic	5 "
Glycerin, Boiled water, } each	300 "
Zinc oxide	100 "
Phenosalyl	2 "

M. Apply warm.

2. ℞ Gum dammar, Anhydrous lanolin, } each	50 parts;
Yellow wax	30 "
Ichthyol	20 "
Powdered iris	30 "
Solution of rubber (solvent not specified)	200 "

M. Incorporate the ichthyol with the lanolin with the aid of heat.

A Cinchona Jelly.—The *Journal des praticiens* for July 15th attributes this formula to Dr. Brissemoret:

℞ Caffeine	6 parts;
Extract of cinchona	25 "
Citric acid	4 "
Tincture of vanilla	1 part;
Tincture of lemon peel	4 parts;
Rum	80 "
Syrup	300 "
Gelatin	20 "
Glycerin	80 "
Water	180 "

M. The dose is not stated, and the details of preparing the jelly are not given. The dose, however, is easily calculated, and any pharmacist will know how to make the jelly.

For Sensitive Dentine.—Dr. Bogue (*Dental Brief; Southern Dental Journal*, July) dips a pledget of cotton into carbolic acid, and then into powdered cocaine, and places it in the cavity. This, he says, will obtund the sensibility enough to use granulated chloride of zinc with little or no pain. In ninety seconds the insensibility of the cavity is complete.

A Cough Mixture.—Dr. L. M. Taylor (Merck's *Archives*, August) has used the following prescription with most satisfactory general results:

℞ Chloral hydrate	64 grains;
Ammonium carbonate	32 "
Fluid extract of ipecac	1 fluid drachm;
Spirits of nitrous ether (Squibb)	2 fluid drachms;
Syrup of tar, Syrup of wild cherry, Syrup of tolu, Camphorated tincture of opium, } of each	1 fluid ounce.

Shake well and take a teaspoonful when the cough is troublesome.

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THE AMERICAN DENTIST OF THE PRESENT DAY.

THE art of dentistry is well known to have had its real origin in the United States. But it is not as a skilled and ingenious workman alone, or even chiefly, that the American dentist is to be regarded; he occupies a place second to nobody else's as a scientific investigator. If he takes up his abode in some European city—and he often does—it is not merely for the ingenuity displayed in the appliances he takes with him from his native land that he is distinguished; he soon makes it understood that he is practising for the love of his art, and that he is at the same time seeking by unsurpassed methods of scientific study to advance odontological science. Whoever of the medical profession may be unaware of this would lose nothing by attending a few meetings of the New York Odontological Society; indeed, he would probably pick up information that he might find of advantage in his own work. We mention that particular society simply because it is one of which we have knowledge founded on observation, and not because we imagine there are not other dental societies in the country that might serve as equally noteworthy examples of the progressive character of the dentist's work and the high position of odontology among the medical sciences; indeed, our present reflections have been prompted by a paper presented before the Section in Stomatology (a term, by the way, which we do not approve of) of the American Medical Association at the recent Columbus meeting, by Dr. Frederick B. Noyes, of Chicago, and published in the *Journal of the American Medical Association* for August 5th.

Dr. Noyes's paper was the outcome of a most painstaking histological study of the periodontal membrane, one fraught with exceptional technical difficulties, as the author explains. It is illustrated with fine half-tone reproductions of photomicrographs and a diagram of Dr. G. V. Black's. Unfortunately, the cuts are not numbered, though they are referred to by number in the text. Such an occurrence will occasionally mar the publication of an important article; the rush attending the preparation of a large weekly journal is such a tax on the editorial staff that nobody can justly be blamed for it, and certainly we should be the last to cast a stone at our excellent contemporary for a blemish which, after all, is probably to be imputed to the author's omission, impossible to repair if noticed at the last moment, and apt not to be noticed at all till the paper comes out. Like things have occurred in our own pages, and we do not expect to escape them so long as human faculties are finite.

Dr. Noyes's article is of value, not only by reason of the observations recorded in it, but also for the suggestions the author offers as to solving the problems that still confront the histologist with reference to certain epithelial structures found in the periodontal membrane, and for his criticism of argument that ought to be founded on histology; but has come with profusion from men who admit they have not made a histological study of the structures concerning the diseases of which they discourse. In other words, it is as an incentive to further work on the part of his fellow dentists that Dr. Noyes's paper is sure to prove of great value, for they are far too devoted to the advancement of odontology not to heed what he says. Admirable as their everyday work is, as recently exemplified in perfecting dental anæsthesia and in the use of porcelain fillings, it is subordinate to their intelligent and unremitting pursuit of the science that underlies their art. The American dentist of the present day is most assuredly in the advance guard of scientific progress.

DERANGEMENT OF THE RESPIRATORY TYPE IN CHOREA.

THE plausible, and sometimes the barely possible, is too often put forward by medical writers as if it were indisputable. In other words, there is too much jumping to conclusions, too great a tendency to erect a crude bit of theorizing into a demonstration. A most commendable instance to the contrary is to be found in an article by Pignatti-Morano, published some months ago in the *Clinica medica italiana.* The author's conservatism is recognized by Finder, whose abstract of the article appears in the *Deutsche Medizinal-Zeitung* for June 29th; he does not set the case down as one of "true respiratory chorea," says Finder, but as one of change of the respiratory type in a choreic.

Pignatti-Morano's observation is as follows: A boy, nine years old, was admitted into a hospital with chorea which had come on suddenly a few weeks before. His breathing attracted notice at once; to superficial observation it was decidedly accelerated, ranging from 90 to 130 a minute and more, but sphygmographic examination showed readily that there was no heightened rapidity in the succession of normal respiratory movements, only a splitting up of each movement into two or three parts. Each normal movement of respiration was composed of two or three lesser movements, and so gave the impression of an accelerated respiratory type. Nothing further was noticeable about the organs of respiration. The phenomenon described disappeared during sleep. By an effort of will the boy could make a few normal respiratory movements, but they lasted only for some seconds. Neither rest nor exercise, remaining indoors nor going out into the open air, warmth nor cold had any influence on the breathing. The physician's approach or that of a stranger intensified the respiratory abnormity, and so also did the horizontal posture. The patient was much improved by the usual treatment for chorea.

The author questions whether the respiratory phenomenon observed in this case is to be looked upon as expressive of a subordination of the respiratory movements to the chorea or of a special primary affection of the respiratory centre, exaggerating its excitability and so giving rise to an alteration of the physiological type of respiration.

FORMALDEHYDE AS A POISON.

"THE virtue of formalin has been its positive antiseptic and supposed non-toxic and non-irritant properties. It is being extensively used, not alone by physicians, but by the laity, and especially the farming community, as well. The ravages of the potato scab fungus, which has been so destructive to the tubers, have caused investigations at the agricultural experimental stations, with the result that bulletins were issued recommending the use of formalin as a safe and most reliable germicide." So says Dr. Charles Bock, resident physician to the Indiana School for Feeble-minded Youth, after relating a case of fatal poisoning with formalin, in the *Fort Wayne Medical Journal-Magazine* for July.

On the farm connected with the school, a man was treating seed potatoes with the four-per-cent. solution of formaldehyde. During this man's temporary absence, one of the inmates, a "low-grade imbecile," twenty-six years old, strong and healthy, drank from an ounce to three ounces of the solution. He immediately complained of pain in the stomach and began to vomit. The vomited matter was stained with blood. Large quantities of albumen water were given at once, and he had but little difficulty in swallowing it. Free vomiting was produced with a tenth of a grain of apomorphine given subcutaneously. At the end of two hours the man seemed but little the worse for his rash act, although he was somewhat weak and complained of slight pain in the stomach. The administration of albuminous drinks was continued and he seemed to improve until the sixteenth hour, when his pulse began to flag. It continued to grow weak and rose to 92 in frequency, in spite of repeated large doses of strychnine given subcutaneously, together with one dose of nitroglycerin and several doses of sparteine by the mouth. At the twenty-ninth hour his respiration was 40, he was getting restless, and his heart was failing. Seventeen ounces of normal saline solution were injected under the skin, and two hours later sixteen ounces were thrown into a vein, but he presently died. During the last hour of his life there was occasional slight cyanosis.

At the post-mortem examination the upper and middle thirds of the œsophagus showed slight signs of inflammation. The stomach contained four ounces of dark fluid free from formalin. Its walls were in some places more than an inch and a half thick and very œdematous. The cardiac end was very red and highly inflamed. The remainder of the organ was necrotic, dark, and tough and cut like old leather. In the duodenum there was an inflamed area confined chiefly to the valvulæ conniventes.

Evidently the public ought to be informed that formaldehyde preparations strong enough to be of value as antiseptics and germicides should be handled with caution and not left where children or imbeciles can get access to them.

THE DESCENDANTS OF AN ALCOHOLIC.

IN our issue for August 12th, under the heading The Effects of Alcoholism on Offspring, we mentioned the case of a French family showing such effects. Another example, on a gigantic scale, is afforded in a terrible catalogue of degeneracy which, according to *Lyon médical* for July 23d, citing *Médecine moderne*, has been uncovered by Professor Pellmann, of the University of Bonn, who has identified seven hundred and nine descendants of Ada Jurke, a confirmed alcoholic, who was born in 1740 and died in 1800. Seven of these descendants were convicted of murder, and seventy-six of various other crimes. One hundred and forty-four were professional beggars. Sixty-one lived on public charity, and one hundred and eighty-one were prostitutes. In surveillance, prosecutions, and maintenance in asylums or prisons, this family is said to have cost the German government the sum of six million francs.

SUDDEN DEATH IN CASES OF FATTY HEART.

NOT in every case of fatty heart is there any great danger of sudden death, and when that termination does occur the mode of death is not always the same. Bureau (*Thèse de Paris*, 1898; *Centralblatt für innere*

Medicin, July 29, 1899) has studied the mechanism of sudden death in cases of fatty heart, and finds that it differs in the simple cases and in those complicated with atheroma of the coronary arteries, which latter are by far the more numerous. If there is atheroma, sudden death is apt to be caused by a rupture of the heart or occur during an attack of angina pectoris. In cases of simple fatty degeneration of the heart, however, death is not directly attributable to the heart, but is due to syncope, and the causes of that accident may be various. In young and otherwise healthy persons the fatal syncope may be brought about by some such cause as a forcible movement, a cold bath, an injury, or the like. In the anæmic or cachectic with a fatty heart it may be induced by cerebral anæmia occasioned by a sudden change from the horizontal to the upright posture. The patient should always be on his guard against syncope, and when it occurs it should be treated promptly.

INFLAMMATION OF THE VERMIFORM APPENDIX FOLLOWING CHILDBIRTH.

To mistake appendicular inflammation for disease of the uterus or its annexa is, of course, more apt to occur shortly after childbirth than at other times. It happened in a case related by Fieux at a recent meeting of the Bordeaux Society of Obstetrics and Gynæcology (*Gazette hebdomadaire de médecine et de chirurgie*, July 13th), but fortunately the observation of tenderness at McBurney's point led afterward to a correct diagnosis, and the appendix was removed. It showed lesions similar to those of typhoid fever; there were numerous glandular ulcerations.

"SYPHILISM" AND "PARASYPHILISM."

Tommasoli (*Monatshefte für praktische Dermatologie*, xxviii, 2; *Centralblatt für Chirurgie*, July 22d) reasons that the tertiary manifestations of syphilis must be the expressions of a self-intoxication with syphilis, or at least of a chronic infection which impresses peculiar changes upon the organism, resulting in a state which he would call "syphilism," in contradistinction from ordinary syphilitic infection. And parasyphilitic symptoms, which may be caused by other poisonings, although not the chronic bacterial, he interprets as expressive of "parasyphilism." We quite appreciate the *Centralblatt's* writer's comment: "*Mit Worten lässt sich trefflich streiten.*"

THE AGGLUTINATION OF TUBERCLE BACILLI.

The results of Widal's test have led to experiments into the phenomena of agglutination in regard to other than typhoid bacilli. Courmont (*Centralblatt für innere Medizin*, No. 25; *St. Louis Courier of Medicine*, July) describes the method of obtaining agglutination phenomena in tubercle bacilli. Cultures eight to ten days old are best suited for this reaction; the serum of an animal not easily susceptible to tuberculosis, but which has been made tuberculous, is used as a test serum. Under the microscope tubercle bacilli show a peculiar tremulous motion; the author leaves it doubtful whether this is molecular in character or not. After the agglutination this motion disappears entirely. Macroscopically the agglutination reveals itself by a precipitation of the cloudy turbidity in the previously homogeneous fluid. To elicit the reaction, three dilutions must be made—one in five, one in ten, and one in twenty. A positive reaction with the second dilution is decisive. The reaction was positive in ninety-six out of a hundred and six cases of human tuberculosis, and doubtful or negative in only ten, these latter being all cases of advanced phthisis with cavities. In common with the tuberculin test this reaction fails in the last stages of the disease. It is said, however, to be trustworthy in latent tuberculosis.

SUBCUTANEOUS INJECTIONS OF GELATIN IN THE TREATMENT OF ANEURYSM.

There has been some room for speculation as to the *modus operandi* of gelatin injections in the cure of aneurysm. Lancereaux and Paulasco (*Gazette des hôpitaux*, 1898, Nos. 117 and 134; *Centralblatt für innere Medicin*, July 22, 1899), who have found the treatment decidedly more efficacious in saccular than in fusiform aneurysms, suggest that the gelatin, being absorbed into the blood, enhances the coagulability of that fluid, and that two factors are at work to induce coagulation in the aneurysmal sac, namely, retardation of the flow of blood within the sac and the roughness of its interior.

A NEW DANGER FOR BICYCLISTS.

An extraordinary accident is reported to have happened recently at Muncie, Indiana. The pneumatic tire of the hind wheel of a bicycle exploded, and the explosion was so severe that, according to the *New York Times* for August 15th, the rider was thrown several feet into the air and dashed unconscious to the sidewalk. A physician, on reaching him, found him to be dying. The report of the explosion is said to have been audible for a great distance.

THE DOCTOR IN GENERAL LITERATURE AGAIN.

We have taken great pleasure in perusing a little book entitled *Ezra*, by Dr. E. K. Goldsborough. It is almost wholly in negro dialect, and the humor is very enjoyable. Dr. Goldsborough dedicates it "to the mothers and daughters of the Sunny South," and we can assure him and them that the sentiment of the dedication is shared by those who, nearly forty years ago, were arrayed in arms against the South.

THE BUBONIC PLAGUE IN EUROPE.

Now that the plague has reached Portugal and is rumored to have been carried to Spain also, our sanitary officers will undoubtedly take energetic measures to prevent its gaining a lodgment in our own country. While it is most likely to come here by way of some British port, if at all, it may come by some more direct route, and this possibility the Marine-Hospital Service will assuredly bear in mind.

X-RAY BURNS.

Apparently we are approaching the desirable condition of being able to use the Röntgen rays to the best advantage without risk of damage to the patient. The *Electrical Review*, in its issue for August 2d, intimates that the most improved apparatus, in the hands of those highly skilled in its management, is alone free from danger, owing to the rapidity with which it acts. It refers to a Röntgen picture taken by Mr. E. W. Caldwell, of New York, by means of an exposure so brief as readily to have sufficed for a rapidly moving object.

A WARNING CONCERNING EXPLORATORY PUNCTURE OF THE CHEST IN CHILDREN.

A MOST uncomfortable experience is that of finding that one has provoked dangerous effects by the employment of means supposed to be harmless, and, unfortunately, it is not an uncommon one. The indiscriminate resort to tapping the chest to clear up a doubtful diagnosis may lead to such an experience, as is graphically set forth by Dr. Henry Koplik in the August number of *Pædiatrics*. The warning should prove all the more effective because Dr. Koplik, in common with others, has before dwelt in his writings upon the harmlessness of the procedure. He now relates in brief the histories of four cases in which pulmonary hæmorrhage followed the puncture. Fortunately, the result was not fatal in any of them, but the author points out that the conditions may not always be favorable to a prompt cessation of the bleeding, and adds that if they were not the child would probably die. It is rarely, he thinks, that more than one puncture at a sitting is justifiable. The needle, he says, should not be thrust in more than a third of an inch, it should be withdrawn rapidly (the whole procedure occupying not more than half a minute), its point should not be moved about in quest of fluid, and the puncture should be made cautiously on the left side of the chest, either in front or in the back, in the vicinity of the heart and great vessels or near the vertebral column. He states that he himself has never punctured in front over the apex of the lung and over the great vessels.

THE CANADIAN MEDICAL ASSOCIATION.

THIS year's meeting, which is to be held in Toronto on the 30th and 31st of August and the 1st of September, Wednesday, Thursday, and Friday of next week, will probably be more largely attended than usual, on account of its occurring during an industrial exposition "illustrating the progress of the century." The programme, which we print elsewhere in this issue, promises a profitable interchange of views and experience.

THE DEMONSTRATION OF THE TUBERCLE BACILLUS IN THE FÆCES.

ROSENBLATT (*Centralblatt für innere Medicin*, 1899, No. 29; *Settimana medica*, July 29th), noting the difficulty of finding the tubercle bacillus in advanced cases of intestinal tuberculosis, owing to the fluidity of the stools with which the bacilli are mixed up, conceived the idea of administering tincture of opium until the stools become solid and formed. The micro-organisms are then sought for solely on the surface of the fæces, where, it is said, they can be found without difficulty.

TUBERCULOUS DISEASE IN MAN AND BEAST.

AT a recent sitting of a legislative committee to investigate animal diseases in the State of New York Dr. Edward Moore combated the accepted idea of the bovine origin of tuberculous disease in man. His paper is published in full in the *Country Gentleman* for August 10th. Whether Dr. Moore is right or wrong, he is convinced of the truth of his contention, as is shown by the following remarks, which occur in his paper: "I predict that you will find that where cattle tuberculosis is plenty, human tuberculosis is so rare as to bear no relation to it; that while you are in the thick of bovine tuberculosis, you are practically outside the consumptive belt. But again, I warn you not to accept my opinion. Go prove it right or wrong."

ITEMS.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending August 18, 1899:

Small-pox—United States.

Jacksonville, Fla.	July 29–Aug. 12	9 cases.	
Louisville, Ky.	Aug. 3–10	3 "	
Everett, Mass.	July 29–Aug. 5	1 case.	
New York, N. Y.	Aug. 8–12	1 "	
Cleveland, Ohio	Aug. 5–12	4 cases.	
Altoona, Pa.	Aug. 5–12	2 "	
Spokane, Wash.	July 29–Aug. 5	1 case.	
Tacoma, Wash.	July 29–Aug. 5	1 "	

Small-pox—Foreign.

Aden, Arabia	May 1–30		1 death.
Antwerp, Belgium	July 22–29	3 cases.	
Rio de Janeiro, Brazil	June 30–July 7	39 "	27 deaths.
Hongkong, China	June 24–July 15	2 "	1 death.
Athens, Greece	July 22–29	11 "	3 deaths.
Bombay, India	July 4–15		15 "
Mexico, Mexico	July 23–30	9 "	7 "
Progreso, Mexico	July 15–22	2 "	1 death.
Panama, Colombia	July 21–Aug. 1		1 "
Moscow, Russia	July 15–22	7 "	4 deaths.
Odessa, Russia	July 22–29	4 "	1 death.
Warsaw, Russia	July 8–29		3 deaths.
Straits Settlements, Singapore	June 24–July 1		2 "
Smyrna, Turkey	July 15–23		1 death.
Montevideo, Uruguay	July 8–15	1 case.	

Yellow Fever—Foreign.

Bahia, Brazil	July 16–21	9 cases,	1 death.
Rio de Janeiro, Brazil	June 30–July 7		3 deaths.
Panama, Colombia	Aug. 1–8	2 "	1 death.
Havana, Cuba	July 27–Aug. 3		9 deaths.
Santiago, Cuba	July 22–29	8 "	3 "

Cholera.

Bombay, India	July 4–18		1 death.
Calcutta, India	July 1–8		4 deaths.
Yokohama, Japan	July 15–22		1 death.

Plague.

Amoy, China	July 8–15		275 deaths.
Hongkong, China	June 24–July 15	306 cases,	305 "
Alexandria, Egypt	July 1–16		7 "
Bombay, India	July 4–18		115 "
Calcutta, India	July 1–8		7 "

A Correction.—Dr. Chase P. Ambler calls our attention to an error in the abstract of his paper on Serum Therapy in Tuberculosis, which we published in our issue for August 12th, page 245. We inadvertently reversed the order of importance of the three factors essential to the treatment of tuberculosis. Dr. Ambler placed hygienic conditions first, climate second, and medication in the third place. We regret the error, which was purely one of oversight, and gladly comply with Dr. Ambler's request to correct it.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending August 19, 1899:

DISEASES.	Week ending Aug. 12.		Week ending Aug. 19.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	29	12	61	17
Scarlet fever	45	2	61	2
Cerebro-spinal meningitis	0	6	0	6
Measles	4	11	106	7
Diphtheria	104	30	138	25
Croup	0	1	7	5
Tuberculosis	188	169	181	138
Small-pox	1	0	0	0
Chicken-pox	3	0	5	0

The Baly Gold Medal.—We learn from *Science* for August 18th that the Royal College of Physicians of London has awarded the Baly gold medal for distinguished services to physiology to Dr. C. S. Sherrington, F. R. S., professor of physiology in University College, Liverpool.

The Malarial Mosquito.—According to the *New York Times* for August 22d, Major Ross, in charge of the Malaria Investigation Expedition, cabled from Sierra Leone on the 21st inst. to the Liverpool School of Tropical Medicine that the malarial mosquito had been found.

Change of Address.—Dr. T. H. Merrill, from Tacoma, Washington, to Brockton, Massachusetts.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 12 to August 19, 1899:*

AGRAMONTE, A., Acting Assistant Surgeon, United States Army, will return to Havana.

BRADLEY, ALFRED E., Major and Surgeon, United States Volunteers, upon being relieved by PERLEY, HENRY O., Major and Surgeon, United States Army, as commanding officer of the United States hospital ship *Relief*, at San Francisco, will proceed to rejoin his proper station, Fort Yellowstone, Wyoming.

HARTSUFF, ALBERT, Lieutenant-Colonel and Deputy Surgeon-General, United States Army, is granted leave of absence for one month.

DUVAL, DOUGLAS F., First Lieutenant and Assistant Surgeon, United States Army, will proceed to Brooklyn and report to ARTHUR, WILLIAM H., Major and Surgeon, United States Army, commanding the United States hospital ship *Missouri*, for duty.

MACDONALD, CHARLES E., Acting Assistant Surgeon, United States Army, will proceed to Fort Yates, North Dakota, relieving GIBSON, EDWARD T., Acting Assistant Surgeon, United States Army, who will proceed to Fort Meade, South Dakota, for duty.

NOBLE, CHARLES D., Acting Assistant Surgeon, United States Army, will accompany recruits ordered from Columbus Barracks, Ohio, to San Francisco, and return to his proper station.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending August 19, 1899:*

ATLEE, L. W., Surgeon. Detached from the *Bennington* and ordered to the *Solace*.

BALDWIN, L. B., Surgeon. Ordered to be examined by the naval retiring board at Washington, September 12th, and then home to await orders.

BEEBE, D. G., Assistant Surgeon. Detached from the *Monadnock* and ordered to the *Bennington*.

BOGAN, F. R., Assistant Surgeon. Detached from the *Wabash* and ordered to the *Scorpion*.

FURLONG, F. M., Assistant Surgeon. Detached from the *Solace* and ordered to the Oregon.

LIPPITT, T. M., Assistant Surgeon. Detached from the *Solace* and ordered to the *Baltimore*.

THOMPSON, J. C., Assistant Surgeon. Detached from the *Baltimore* and ordered to the *Castine*.

WHEELER, W. M., Assistant Surgeon. Detached from the *Baltimore* and ordered to the *Solace*.

WILSON, H. D., Passed Assistant Surgeon. Detached from the *Castine* and ordered to the *Solace*.

Promotions.

Assistant Surgeons: COSTIGAN, G. D., ELLIOTT, M. S., PLEADWELL, F. L., CARPENTER, D. N., MORGAN, D. S., and PRYOR, J. C., to be lieutenants, junior grade.

Births, Marriages, and Deaths.

Married.

BURGER—VANDEWATER.—In Ocean Grove, New Jersey, on Tuesday, August 15th, the Rev. Edward Burger and Miss Emma Louise Vandewater, daughter of Dr. Albertus L. Vandewater, of Hackensack, New Jersey.

FOOT — BEACH. — In Gloversville, New York, on Tuesday, August 8th, Mr. George Lewis Foot and Miss Elizabeth Warren Beach, daughter of Dr. Eugene Beach.

HARBOUR—HAMBLEN.—In Vosburg, Mississippi, on Wednesday, August 16th, Dr. George L. Harbour and Miss Nellie Hamblen.

Died.

DEDERICK.—In St. Francisville, Louisiana, on Wednesday, August 16th, Dr. John William Dederick, in the eightieth year of his age.

HARTMAN. — In Westchester, Pennsylvania, on Wednesday, August 16th, Dr. William D. Hartman, in the eighty-fourth year of his age.

SHEPARD.—In New Orleans, on Tuesday, August 15th, Dr. Edward T. Shepard, in the fifty-sixth year of his age.

THOM.—In Baltimore, on Monday, August 21st, Dr. J. Pembroke Thom, in the seventy-first year of his age.

Letters to the Editor.

MEDICATION OF THE MIDDLE EAR.

PITTSBURGH, PA., *August 14, 1899.*

To the Editor of the New York Medical Journal:

SIR: It is with pleasure and profit I have read the article by M. A. Goldstein, M. D., in the *New York Medical Journal* of July 29th, entitled Modern Therapy of the Tympanic Cavity, for your humble servant has been working upon similar lines for some little time, only, instead of using a syringe with a piston, I have been introducing into the tympanic cavity the medicated compounds of petroleum by means of a fountain syringe having a glass reservoir and pure rubber tubing, in connection with the silver Eustachian catheter, all apparatus and preparations being sterilized. Placing my patient on the back, with head inclined in such a position as to give the most direct vertical flow of the fluid through the Eustachian tube, I allow the medicament to force itself slowly within, the receptacle being placed at the height of eight feet. After the withdrawal of the catheter, my patients, remaining on the back, have been asked to inflate the ear by the Valsalva method, thus forcing more of the fluid within the cavity. The fluid certainly enters the tympanic cavity, for my patients have not only felt it there and the sensation of its being against the tympanic membrane, but have expressed themselves as having experienced the slow issuing from the Eustachian tube into the nose and mouth of the preparation introduced for two and three days after. This treatment has measurably bettered the condition of the sclerotic tympanic membrane, modified and lessened the tinnitus, and improved the hearing somewhat in a progressive case of aural sclerosis of thirteen years' standing.

As regards the introduction of fluids within the tympanic cavity by the hypodermic syringe with a long needle, this is a matter I had thought out before reading or knowing any one had done so, and expressed the wish that some one would do this, hesitating to be the first to do so. Also, I had practised the introduction of petroleum compounds with the fountain syringe into the middle-ear cavity, the ear so treated having the tympanic membrane unruptured, before I knew any one had tried so to do.

I wish some specialists located in some of our large cities, where there are supposed to be plenty of patients to try this treatment upon, would in the cases of sclerotic ears introduce through the drumhead a small quantity of warm normal salt solution, fill the external ear with the same, fill the nostril of the corresponding side with cotton, saturated also with the same salt solution, and apply the negative pole of the galvanic battery to the solution within the external ear, and the positive pole within the nose, employing a moderate current for at least half an hour. My experience with this method of procedure in cases of atrophic nasal catarrh and the excellent results obtained lead me to believe that good may be done, inasmuch as the sclerotic ear is in much the same condition (as I understand it). Patience and persistence are requisite.

Andrew T. Veeder, M. D.

FOR A HOLIDAY TRIP, REST, RECREATION.

Toronto, *July 29, 1899.*

To the Editor of the New York Medical Journal:

Sir: It occurs to me that many of the overworked, holiday-needing readers of your valuable weekly, especially those practising in your city, would be glad to read a suggestion or two in respect to places of rest or of soul-stirring recreation, and the way to get to them.

There is one route, reaching across the continent, which I think, as a whole, is not very well known in New York and which for diversity of scenery, of methods of transit, of climatic variety agreeably limited, and for length of continuous trip can hardly be equaled on the continent, probably not excelled anywhere. From start to finish there are constant agreeable changes. One can, of course, take it as a whole or in part; from two hundred to three hundred miles, or especially five hundred, to over three thousand miles.

This route is by way of the Lehigh Valley Railroad to Niagara Falls; by the Grand Trunk or, if preferred, by boat across the lake to Toronto, and then to Muskoka by the Grand Trunk; by boat along the enchanting lakes of this region and on over the Georgian Bay and Lakes Huron and Superior, through the Sault Ste.-Marie Canal, to Fort William. Thence the route is by the Canadian Pacific Railway through the picturesque, richly-stored mineral regions of northern Ontario, through the rolling, diversified, or more or less wooded prairies of Manitoba and the Northwest Territories, with their cool, ozonized, refreshing breezes to, and literally through, the mighty Rocky Mountain range, and the Selkirk Range, the Gold Range, and the Coast Range, to the Pacific.

The tourist can leave the boat at the Sault and, instead of going through northern Ontario and Manitoba, go by rail through Michigan, Minnesota, and North Dakota, touching at Minneapolis and St. Paul, and join the main line of the Canadian Pacific before it dips into the grandeur of the Rockies. Or one may travel the entire route by rail, the Grand Trunk making close connection with the Pacific road near North Bay, on the north side of Lake Nipissing.

The first four hundred and fifty miles of this route is made an exceedingly pleasant trip by the Lehigh Valley management, especially if one rides on the "Black Diamond Express," said to be the handsomest train in the world, with its special observation car for passengers to view the panoramic scenery, its *café*, library, and well-filtered atmosphere. The rich agricultural valleys, with their countless fruit farms and orchards, of New Jersey; the highly picturesque mountain region—the Switzerland of America—the Wyoming Valley, and the Susquehanna River, of Pennsylvania; and the beautiful lake regions of New York are successively traversed, and the tourist reaches Buffalo and the Falls of Niagara, of which Anthony Trollope wrote: "I know of no one thing so beautiful, so glorious, and so powerful," and "Of all the sights of this earth of ours . . . I am inclined to give the palm to Niagara Falls."

From the Falls to Toronto, and on to Muskoka, the Grand Trunk cars, now not second to any others for the comfort of passengers, for speed, pure air, etc., pass through a rich agricultural country and curve along the shores of Lakes Ontario and Simcoe.

In boats, supplied with every comfort, over the three principal lakes of Muskoka, with their countless and beautiful islands, and over the great Georgian Bay (lake) and Lakes Huron and Superior, the trip is delightful to the eye and, especially on the larger lakes, most exhilarating to the whole organism.

From Fort William, on Thunder Bay, to the Pacific Ocean, the Canadian Pacific Railway furnishes the best possible means of transport. The facilities for the comfort of tourists can hardly be surpassed in any way—luxurious parlor, sleeping, and dining cars, with a pure atmosphere therein, and, in the Rockies, a special observation car.

And a few words here about the Rockies, along this road, will be of interest. They are entered between two almost vertical walls of dizzy height, forming a gateway through which the Bow River from the mountains pours out. Then, as Lady Macdonald has written it, "Very striking and magnificent grows the prospect as we penetrate into the mountains, each curve of the line bringing fresh vistas of endless peaks rolling away before and around us, all tinted rose, blush-pink, and silver, as the sun lights their snowy tips. Every turn becomes a fresh mystery, for some huge mountain seems to stand right across our way; yet a few minutes later we find the giant has been encircled and conquered, and soon lies far away in another direction." Grandeur and beauty crowd ceaselessly upon the attention as we proceed through gorge and over mountain, giving now a vast outlook, in a moment, an interior glimpse; the scenes changing with the suddenness almost of a kaleidoscope.

With an "unlimited" ticket the tourist can, with great advantage, stop over at points of most interest—as, for example, at Mauch Chunk (Indian for Bear Mountain), and ascend, at an acclivity of forty degrees, Mount Pisgah, by the Switchback Railroad, which carries up twenty thousand human sightseers annually, and view the country at an elevation of fifteen hundred feet; again, at Geneva, and visit Seneca Lake, surrounded by an excellent road, eighty miles in length, highly tempting to bicyclists, and, at the lake's outlet, that remarkable, fascinating spot, Watkins Glen; and again, if a Waltonian, one can spend some time at one or more of the many trout lakes on the route. The beautiful, shaded, breezy city of Toronto is well worth a stop-over at, say at the time of the meeting here of the Canadian Medical Association—August 30 and 31 and September 1st; and one may rusticate pleasantly for a day or two in Muskoka if the weather be not damp. The strongly sulphured Banff hot springs, at the National Park on the Rockies, at an elevation of forty-five hundred feet, should be visited. Here in Devil's-head Lake are enormous trout, for which deep trolling affords fine sport, and wild sheep and mountain goats are common on the neighboring heights.

Of this delighting place, the secretary of the Ontario provincial board of health, Dr. Bryce, writes: "The climate is Alpine, and has an atmosphere of such ethereal clearness, freshness, and purity as at times to seem to almost transport the visitor into a supernatural region. There is a beautiful hotel, with every modern accommodation, convenient to the hot springs, in the midst of splendid scenery, open from May to October; and a mountain sanitarium under expert medical supervision. . . . The effects of the climate and springs here on rheumatic affections and diseases of nutrition have been for years favorably proved by hundreds of invalids." The springs are at different elevations on the eastern aspect of Sulphur Mountain, the highest being seven hundred feet above the Bow. All may be reached by good roads, commanding glorious landscape views. The more important ones have been improved by the government, and picturesque bathing houses erected, under the care of attendants. One spring forms a pool inside a dome-roofed cave; another, near by, forms an open basin of warm sulphurous water.

Edward Playter, M. D.

Primary Cancer of the Falloppian Tube.—Dauel (*Thèse de Lille*, 1899; *British Medical Journal*, August 12th) has collected over thirty authentic cases of primary cancer of the Falloppian tube, and adds an extra one operated upon by Delassas, of Lille.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL.B.

XXXIII.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(*Continued from page 279.*)

Liability for Erroneous Conclusion in Examination.—A peculiar case of injury resulting from an erroneous conclusion of a physician is shown in a recent Massachusetts case.* In this case the plaintiff, who was engaged to be married, had accidentally injured himself in such a way as to require the attention of a physician and the application of remedies to his private parts. The father of the plaintiff's *fiancée*, hearing that the plaintiff was afflicted with a venereal disease, took him to the defendant, a physician, for the purpose of learning his real condition. The physician examined the plaintiff and reported that he had gonorrhœa, whereupon the plaintiff's *fiancée* broke the engagement, and the plaintiff brought suit against the physician for damages.

It will be observed that this case presents conditions differing from all others heretofore considered: a third party employs a physician to examine a man, the physician does so, and erroneously reports his condition. Is the physician beholden to the man examined for damages resulting from his incorrect diagnosis? Here there is no contractural relation existing between the physician and the man whom he examines, for he is in the employ of the third party. We have seen, however, that a physician who undertakes the treatment of a case gratuitously is under equal obligation to the patient as though the patient paid him for the treatment. So, also, is the physician bound to possess the same qualification and exercise the same skill in the treatment of a patient where he is paid for such treatment by a third party.† Therefore in this case the fact that the physician was employed by a third party to conduct the examination can not be urged as a bar to the plaintiff's right to recover. But does the mere fact that the physician made an erroneous report of the plaintiff's condition entitle the plaintiff to recover from him for damages resulting therefrom? Here, again, we find the old familiar rule that the physician is not liable for his incorrect report if he has the ordinary skill and learning of a physician, and exercised ordinary diligence and care in their application to the case; otherwise he is liable. Nor does the fact that the purpose of the examination was information and not medical treatment have any material effect.

Examining without Consent.—An English case arising from an examination similar to the one related above, in which the party examined submitted only with reluctance, and afterward sued the physician for assault in making the examination under coercion, presents quite a different question for consideration. In this case a housemaid was accused by her mistress of being in the family way; the girl denied the accusation, but the mistress sent her to her room and sent for a physician to examine her. The physician on arriving went to the girl's room and told her he had come to examine her; the girl objected, and said she did not like to be examined; the doctor explained that he was a professional man and told her how to prepare herself for examination; she did as directed, and submitted to the examination, crying all the time. The doctor found that the mistress's belief was mistaken and so reported. The servant afterward brought suit against the doctor for assault upon the theory that his examination was only submitted to through fear and duress. Upon the trial a verdict was rendered in favor of the doctor. From this court an appeal was taken to the Manchester Assizes. The two justices who heard the question there disagreed upon the law, Justice Lopez expressing his opinion that the girl had only submitted to the examination through fear of evil consequences that would follow her refusal, and that her submission could not therefore be considered a consent to the examination. Justice Lindley, however, was of quite a different opinion, and thought there was no evidence of want of consent as distinguished from a reluctant obedience or submission, and that, in the absence of all evidence of coercion as distinguished from an order that she could have obeyed or not, she had no cause of action. The court being evenly divided, the judgment was allowed to stand. An appeal was then taken to the court of appeals, the justices of which agreed with Justice Lindley. The appeal was accordingly dismissed and the judgment permitted to stand in favor of the doctor. This case is cited particularly for the purpose of pointing out a possible danger. The mere beginning of a suit of this sort, whether or not the plaintiff succeeds in obtaining a judgment against the doctor, is greatly to his damage; therefore he should never attempt an examination of the kind unless the consent of the party to be examined is fully and freely given.

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* Harriott *vs.* Plimpton, 166 Mass., 585.

† Dubois *vs.* Decker, 130 N. Y., 325.

Contagious Diseases.—Questions of liability of the physician to his patients growing out of his conduct in cases of contagious disease have arisen in two separate and distinct classes.

The first and most important, which has been heretofore referred to,* is that growing out of a breach of duty on the part of the physician to protect his patients in all reasonable ways from contagious and infectious diseases. The liability of this class is very well illustrated in the case of Piper *vs.* Menifee.† Here the physician was told by the patient's wife that if he attended a certain case of small-pox he must not come to see her husband. The physician said that "he would not, unless the (small-pox patient) would be bound for his fee." The next day, when he returned, the patient's wife again told him that if he visited any small-pox patients he must not come there. He replied that he would not visit any small-pox patients. Ten days later the patient's wife again pressed him strongly about small-pox patients, again repeating the interdiction. In answer he neither admitted nor denied that he visited such patients, but said that if he visited them he would change his clothes, and there would be no danger. After the physician had been attending the patient for about three weeks for typhoid fever, and when he was getting better and began to recover from the fever, he broke out with small-pox, and some time after the patient's son broke out with the same disease. The patient also offered evidence to show that the physician was attending small-pox patients while attending him. The court held that this statement of facts constituted a good cause of action against the defendant. Justice Marshall, who rendered the opinion, said: "Suppose a physician, knowing that he has an infectious disease, continues to visit his patients without apprising them of the fact, and without proper precautions on his own part, and thus communicates the disease to one of them. Clearly the physician thus acting would be guilty of a breach of duty and of his implied undertaking to the patient, which, whether it be regarded in the light of carelessness or negligence or fraud, would render him liable for consequent damages, including as well the suffering and danger and loss of time as the expense necessarily occasioned by the second disease thus produced by his own wrongful act.

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"The actual case, as presented by the evidence which was offered, is even stronger for the (patient) than that which has been hypothetically stated, inasmuch as it may be inferred that the continuance of the plaintiff's employment in the first disease was induced by his promise not to visit small-pox patients while he was visiting the (patient)."

From the very nature of the physician's professional duties it is necessary for him to pass from patients suffering from infectious or contagious diseases of the more ordinary and less virulent type to those not so affected. Modern science has, however, shown that antiseptic precautions will greatly decrease the danger of contagion, and if the physician adopts those measures best calculated to insure the safety of those with whom he comes in contact he will be considered as exercising due skill and care as judged by the advanced stage of the medical science.

The second class of cases in which the physician's conduct has been questioned consists of those in which he has incorrectly reported a patient to the board of health as being afflicted with a contagious disease. In this class of cases it seems that the question of liability depends upon the good faith of the physician in making the report rather than upon his skill and care. In passing upon a case of this sort Justice Sedgwick, of the New York supreme court, said: "Nor, as I view the case, can it be maintained that the defendants' (the physicians') omission, if there were such an omission, to use ordinary skill as physicians, in coming to their opinions, was actionable under the facts in this case. There was no improper or hurtful treatment or medication in pursuance of the opinion. These opinions led them to make an honest report to the health board. The statutes had made it their duty to report cases of contagious disease. The performance of this duty was not part of the functions of a physician in his relation to a patient, but rather to the public. My opinion is that in order to give the public the protection due to it, according to the intention of the statute, any physician that possesses in fact an opinion that a patient has a contagious disease is bound to report the case, whether he has or not used ordinary professional skill and knowledge. A physician of skill in everything but cases of small-pox, which happily are not numerous, may, unexpectedly to himself, be called to a case which presents to him the appearance of small-pox. It may be said that he can call in counsel. It can not, however, be said that private counsel should be called in rather than such as the law has appointed. Certainly, if he really thinks the case to be one of small-pox, it is his duty to communicate his opinion to the public authorities, who furnish skilled physicians peculiarly competent to pass upon the case. They are the experts that the law points out for the physician. The attendance of those experts upon a patient can cause no injury, and therefore the responsibility rests solely upon the public officers." *

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* Contagious Diseases, *New York Medical Journal*, February 25, 1899, p. 280.

† Piper *vs.* Menifee, 12 B. Mon. (Ky.), 467, 54 Am. Dec., 547.

It is evident that the logic of this opinion will not apply in cases where the act of the attending physician in reporting cases of contagious disease to the board of health is not a mere ministerial one, and where no regular physician is provided by law to make the examination by virtue of which the patient is quarantined. It is therefore believed that where a patient is quarantined by virtue of the examination of the attending physician he will be held to exercise ordinary skill and diligence in conducting that examination.

A case of liability arising from the conduct of a doctor in reference to a contagious disease, although not coming under either of the foregoing classes, or, in fact, growing out of a professional relation between the parties to the suit, is reported in the *New York Supreme Court Reports*. In this case a physician directed the plaintiff to whitewash a house in which there had been small-pox patients. The plaintiff objected to going into the house, but was informed by the doctor that the house had been thoroughly disinfected, and that no danger of contagion existed. Relying upon the doctor's statement, the plaintiff performed the services and in due time broke out with the disease. This case came before the court upon a question of law. It was decided that the facts as stated showed a cause of action, and that it was for the jury to determine from the evidence whether the doctor had acted toward the plaintiff with due care and prudence, and whether the plaintiff had acted rashly and inexcusably in entering the house under the circumstances.†

Negligence in Writing Prescriptions.—The physician may become civilly liable in damages as well for injury resulting from a negligently or ignorantly written prescription as from any other form of malpractice. Nor does the negligence of the druggist who compounded the prescription without discovering the error and directing the doctor's attention to it relieve the physician from his liability.‡

(*To be continued.*)

Pith of Current Literature.

The Prophylaxis of Alcoholism in the Army.—M. Charles Viry, médecin principal de première classe (*Archives de médecine et de pharmacie militaires*, July), sums up a paper on this subject with the following conclusions: 1. The men should be taught by familiar and frequent discourse, by conferences, books, illustrations, inscriptions, etc., the dangers of alcohol, either pure or in combination, and an example of temperance should be shown to them. 2. The organization of canteens should be improved so as to transform them into places where the soldier can amuse or rest himself without the necessity of drinking. 3. The purchase of alcoholic drinks outside of the canteens should be interdicted as much as possible. 4. The sale in the canteens of every alcoholic liquor (fermented or distilled) before the morning meal should be forbidden. On the other hand, the sale, especially in the morning, of non-alcoholic stimulating or nutritious drinks, such as coffee, tea, chocolate, milk, etc., should be encouraged. 5. The sale of alcoholic liquors should be authorized in canteens only at mealtimes and during the hours immediately following. 6. The number of kinds of liquors sold should be limited, in order that a more efficient supervision over their quality may be exercised. 7. The sale in canteens of all alcohol insufficiently rectified should be prohibited. The examination as to rectification should be intrusted to special experts, and every effort should be made to prevent the sale of any alcoholic product other than those admitted after examination. 8. The price of non-alcoholic and of fermented alcoholic liquors should be lowered, while that of spirituous liquors, especially brandy, should be raised. 9. A rigorous surveillance over the execution of these orders should be instituted, and all transgression thereof, whether on the part of the men or of the canteen keepers, should be vigorously repressed, as well as all breaches of temperance. The recommendations here given have, we are informed, received the sanction of the general officer commanding the second French army corps.

The Mulberry as a Diuretic.—*Lyon médical* for July 30th, quoting *Archives provençales de médecine et de chirurgie* for June, says that the use of mulberry leaves as a diuretic is very popular in Siberia. About forty-seven grains and a half are infused in a hot place for from eight to ten hours in two cupfuls of boiling water. A cupful may be taken morning and evening. The savor of the infusion is said to be not disagreeable, and the remedy may be continued for three days. In one case the quantity of urine, from fifty-four ounces at the commencement, was gradually raised to sixty-two, seventy-two, and finally eighty-eight ounces. The patient was a man, of eighty -four years, who had suffered for ten years from œdema of the feet.

Gonorrhœal Endocarditis.—Bjelogolowij (*Bolnitzcha Gaseta Botkina*, No. 4, 1899; *Clinica moderna*, July 26th) concludes from personal observation of a case of gonorrhœal endocarditis, which terminated fatally, gonococci being found in the blood and in the endocardial inflammatory stratification, that the gonococcus, like the *Streptococcus pyogenes*, is able to give rise to a septicæmia, and that gonorrhæal endocarditis may develop in the course of a blenorrhagia without any affection of the articulations.

The Predisposing Conditions of Plague.—Dr. Atkinson (*Lancet*, August 5th), in his annual report for 1898 at Hongkong, says that the conclusions to be drawn from the colony's experience of plague in 1896 and 1898 are that the occurrence of plague is favored by (1) long prevalence of drought or of abnormally low rainfall; (2) atmospheric temperature below 82° F., as the months of maximum mean temperature were in each year followed by a material reduction in the number of cases; (3) the absence of sunshine; and (4) the dampness of the atmosphere. During the months in which there were most cases the mean humidity of the atmosphere was high.

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* Brown *vs.* Purdy, 8 N. Y. S. R., 143, 54 N. Y. Super. Ct., 109.

† Span *vs.* Ely, 8 Hun, 255.

‡ Murdoch *vs.* Walker, 43 Ill. App., 590.

Fracture of Femur without the Usual Signs.—Dr. C. L. Starr, of Toronto (*Boston Medical and Surgical Journal*, August 17th), reported recently to the American Orthopædic Association a case occurring in a child of three years, in which, although there had been a fracture at a point just beyond the junction of the head and neck of the femur, as demonstrated at autopsy, there had been no pain or the usual signs, and a positive history of limping for only two weeks previously. After the postmortem examination, the parents recalled the fact that only six weeks before the limp had developed the child had fallen from a high chair.

Curious Case of Spasmodic Urinary Incontinence during Coitus.—Dr. Paul Farez (*Indépendance médicale*, August 2d) recently reported to the Society of Hypnology and Psychology the case of a woman, thirty years of age, married ten years, and the mother of two boys. In the early years of her married life she had been utterly devoid of all sexual desire or enjoyment, "cold as marble," to use her own expression; until one idle day she gave herself to a friend of her husband. For the first time she realized sexual passion, and thenceforth she became as sexually eager as she had previously been indifferent. In her the orgasm was accompanied by cries, by involuntary violent and uncontrolled movements, and often by loss of consciousness. Further, at the moment of the orgasm the woman ejected forcibly but unconsciously five or six jets of urine separated by an appreciable interval. This unpleasant characteristic was breaking up the domestic relations. The husband naturally lost all sexual attraction toward the woman, and contemplated taking a mistress; while the wife's sexual hunger was unsatisfied and she was tempted to look for satisfaction elsewhere. It was at this juncture that the woman came under Dr. Farez's care for other troubles, and the foregoing condition, with its attendant distressing circumstances, was only incidentally mentioned. The author recognized at once that his patient was a hysteric. For reasons which he describes, he realized that the urinary emissions were not due to compression of the abdomen during coitus. He elicited the fact that the woman had that neurotic tendency, by no means uncommon, of being unable to urinate on going to bed in her husband's presence, being compelled to rise later for that purpose when her husband was asleep. In the meantime coitus occurred with her bladder distended, and the contractions of the abdominal recti at the orgasm freed the sphincter. He succeeded in sending the patient into the hypnotic state, and suggested that she should urinate abundantly at bedtime, and ordinarily immediately before coitus also. He also suggested control of the sphincter and moderation of the muscular crises at the orgasm. The treatment was entirely successful. The disgusting symptom ceased, and domestic harmony and happy marital relations were restored and continued at the time of the report.

Susceptibility versus Immunity.—The following admirable remarks of Sir Richard Douglas Powell (*Lancet*, August 5th) were made in the address in Medicine, on Recent Advances in Practical Medicine, delivered at the annual meeting of the British Medical Association. Sir Richard said:

"I am inclined to think that we are also coming to recognize better the third circumstance which renders virulent the specific microbe to its host. It has long been clear to every observant physician who has, on the one hand, even superficially kept in view the results of bacteriological inquiry, and who has thought upon the incidences of such infective diseases as he happens to meet, that we carry about with us in our accessible mucous tracts, and especially in our naso-oral and respiratory passages, amid other unconsidered trifles and as yet unclassified germs, samples of the organisms specific to many diseases. We are tenanted by these varied organisms from time to time in small colonies or singly, rendered inert only through want of opportunity. The very careful observations of Dr. St. Clair Thomson and Dr. Hewlett recorded in the *Medico-chirurgical Transactions* for 1895 show that there is a natural cleansing if not antiseptic secretion from the healthy nasal membrane which preserves it from contamination by the numerous organisms which abound in the nasal avenues, so that mucus taken from the central membrane of the nose in health may contain few or none. Other bacteria surround us on all sides, and from time to time obtain a temporary but abortive lodgment within us; virulent catarrh, diphtheria, pneumonia, influenza, tuberculosis, erysipelas, perhaps rheumatism, and probably in epidemic times some of the other infective diseases would be represented in one or other category among our domesticated or casual occupants. It is not, however, enough to have the poison germ on the one hand to acquire the disease on the other; there are intermediate or antecedent circumstances of dosage, acquired susceptibility, or that subtle malformation of tissue in certain organs which is inherited and renders them weak in resistance to certain forms of attack. Let a period of depression come over us, involving some slight change in our blood or tissues, some local or general alteration in our chemical or vital functions, and one or other of these organisms may receive the opportunity for aggressive cultivation. We virtually know that this is so in the case of a common cold. Acquired by a momentary chill at an open door or through wet boots, such a catarrh becomes at once a highly contagious disease and will 'run through the house.' There can be no doubt that the catarrh is associated with the cultivation of an organism; it is equally probable that that organism must have preexisted in some part of the nasal surface. Does some vasomotory disturbance bring about the local conditions of increased heat and moisture needful for that particular form of microbe cultivation or is it merely depressed vitality that makes the host susceptible? No one, so far as I am aware, has yet condescended to work out the bacteriology of a common cold. Yet it is the type of a large number of more important diseases and carefully investigated it would, I believe, be fruitful in side-lights upon their ætiology and prophylactic treatment.

"Dr. Washbourn, with whom I was discussing this question the other day, referred me to a most interesting and suggestive inquiry which he had made with regard to a case of recurrent catarrh, apparently simple. I must refer you to the paper, which is very short (being a single inquiry), for details, but I may briefly say that in an apparently simple coryzal catarrh a bacteriological investigation of the mucous discharges revealed the presence of characteristic influenza bacilli and of pneumococci. The patient, aged thirty-five years, had been subject to similar, or apparently similar, attacks so long as he could remember. He had also had many recognized attacks of mild influenza and had been working at the bacteriology of pneumonia. There are many people of somewhat feeble vitality whose complaint is that they are constantly catching colds. Such attacks are due probably to the cultivation of successive crops of an ever-present organism. We have little power in attacking the organism; we might as well do battle with a sunbeam. Our treatment is to fortify the host, although, meanwhile, some local applications of a cleansing kind will in these, as in hay asthma, help to protect from the poison. Whatever the true bacteriology of a common cold may be, this humble malady is one of the most common starting-points of more important respiratory diseases, both as regards initial and secondary attacks.

"Some few years ago I saw in consultation a medical friend who had pneumonia of a pythogenic type; but in response to my inquiry about drains I was informed that he had been in the house for some years, that he had a healthy family of young children, and that he himself had been in perfect health until he went out thinly clad on a cold night and got definitely chilled. He died after the lapse of a day or two, and on investigation a free communication was found to exist between the main drain and his surgery. This gentleman must for some months have been occupied by microbes which did not become operative under the control of a robust vitality until that vitality was temporarily impaired.

"The tendency to rheumatism runs in families. It is hardly possible to conceive that chorea is not a manifestation of the rheumatic poison, which is most probably a micro-organism. A mental shock is the usual intervening ætiological factor in chorea, which presumably weakens the resistance of the nerve centres upon which the toxic influence falls. It is hardly possible that the mental shock and infection should have coincided in time; until more exactly informed we can only provisionally assume that the infective agent was indefinitely preexistent. This intermediate quantity in infective disease requires to be yet more carefully thought out in regard to measures of prevention and even of treatment. Much has been done by physicians in the last generation in general preventive hygiene with regard to the diseases then recognized as specific before their knowledge of the virus of these diseases was so accurate as now. More may yet be done if with the growing precision of our knowledge of the infective elements we maintain our inquisitiveness as to the conditions under which they become operative.

"Unfortunately, we have not yet been supplied with any reliable antidote for the serum treatment of pneumonia. I was good-naturedly twitted by some of my friends in their criticism of a book published eight years ago because I did not speak well enough of the then recent observations of the Drs. Klemperer on the serum treatment of pneumonia; but in a paper read before this association in London five years later I could say no more, and to-day, although Pane's antipneumococcic serum will protect a donkey or a rabbit from the evil consequences of a strong dose of pneumococcus infection, it has not as yet come into practical use in the human disease. I have recently tried it in two cases without result. This may be due to three causes. In the first place, it is difficult to use the serum early enough in the disease, and, secondly, the most severe cases in which alone at present one feels disposed to try the remedy are most generally complicated with some other infection, so that the pneumococcus in the sputum does not signify the sole—perhaps not the most important—element of danger in the case. Thirdly, the doses employed by Pane have been very large, so large that one shrinks from introducing in such bulk an unknown or imperfectly accredited element into any case not already desperate. In the use of these very large doses my friend Dr. Charles, of Rome, has suggested to me the introduction of the serum per rectum as a method which he has known to prove efficacious with other serums, the absorption being rapid and the serum being unchanged. As yet, however, the serum can not be obtained in sufficient quantity for use in such large doses. In all probability the want of success, with casual exceptions, in the antitoxine treatment of erysipelas, puerperal fever, and allied affections, including infective endocarditis, may be similarly accounted for by the presence of more than one organic infection, thus requiring, as pointed out by Behring, Pfeiffer, and Kanthack, more than one antidote. I can not mention the name of Kanthack without deploring the loss which our profession and humanity at large have suffered through the early death while yet in full vigor and promise of work of this most able pathologist."

The Use of Formalin in the Treatment of Surgical Tuberculosis.—Hahn, of Mayence (*Centralblatt für Chirurgie*, 1899, No. 24; *Edinburgh Medical Journal*, August), says that a mixture of one to five per cent. of formalin in glycerin is very much more effective in the treatment of tuberculous joints, abscesses, and empyema than the commonly used emulsion of iodoform. He describes the results as quite remarkable wherever the formalin is able to come into direct contact with the tubercular tissue which it is desired to destroy. In tuberculous joints the best results are obtained when the articular cavity is distended with serous or purulent fluid, and the joints best adapted for its action are the hip and knee.

In dealing with joint or abscess cavities, the pus is first evacuated by a large aspirating syringe, if possible without giving rise to any bleeding; the cavity is washed out with boric solution until the returning fluid is quite clear; as much of the one-per-cent. formalin glycerin is then injected as will correspond to one third or one half of the pus originally removed. There is marked reaction, with fever, pain, and swelling of the joint for a few days. Complete recovery may follow one injection, as described, or it may have to be repeated at the end of a fortnight. The cure may be interfered with if there are necrotic tuberculous masses in the joint or abscess cavity. Dr. Hahn does not claim to be able to cure all tuberculous joints by formalin injections, for a certain number of these are only amenable to direct surgical procedures.

Trikresol in the Treatment of Alopecia Areata.—MacGowan (*Journal of Cutaneous and Genito-urinary Diseases*, May; *International Medical Magazine*, July) claims to have found in trikresol a remedy of superior value in the treatment of alopecia areata. Eight cases treated by this application were cured within a period averaging two months and a half. The first application is preceded by thorough cleansing of the patch with benzine. The remedy is applied pure to the scalp, and in fifty-per-cent. solution with alcohol to the face. The patch and surrounding zone are thoroughly rubbed with a swab of cotton, saturated with the trikresol. The application causes a burning pain, which disappears usually in the course of a few minutes. The area treated becomes thoroughly blanched, the whitish discoloration being followed in a few hours by hyperæmia. The applications are repeated in from four to ten days.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of April 12, 1899.

The President, Dr. William L. Stowell, in the Chair.

(*Concluded from page 248.*)

The Use of Parotid-gland Extract in Ovarian Disease.—Dr. E. Pierre Mallett read a paper on this subject. (See page 295.)

The President (Dr. William L. Stowell) said that to the general practitioner there was much in the paper that was new. As a society they were particularly fortunate, not only in having this clinical paper, but also in the gentlemen who were to take part in the discussion. They had with them Dr. Shober, of Philadelphia, who had already written so much on this subject—in fact, introduced it in America. It was with pleasure that he introduced Dr. Shober to open the discussion.

Dr. John B. Shober, of Philadelphia, said he felt gratified in having been invited to take part in the discussion of Dr. Mallett's interesting paper. He had been deeply interested in the subject for about a year and a half, and from his clinical experience he was convinced that we have very powerful agents in these glandular products, especially in the mammary and parotid glands. It was only clinical experience, however, based upon a limited number of cases. His attention was called to the subject by Dr. Bell's first paper, which was presented before the British Gynæcological Society in 1896, in which he reported a series of cases of ovarian and uterine disease treated by the parotid and mammary glands. The speaker had the same results as Dr. Mallett in the use of the parotid gland in the treatment of ovarian disease. Patients with oophoritis, suffering constant ovarian pain, becoming worse just before the menstrual period, were promptly benefited by treatment with this gland. Enlarged, exquisitely tender ovaries rapidly decreased in size and could be palpated without causing pain. Cases associated with pelvic inflammatory disease, with adhesions and exudate, required operative interference. The speaker had not employed the parotid gland in such cases. Dr. Polk, of New York, had written so much about the use of the thyreoid gland for menorrhagia and fibroids of the uterus that the speaker would only emphasize the fact that this gland seemed to act beneficially upon diseased epithelium wherever found, and it was this thought which first led Bell to use it in carcinoma of the cervix, a purely epithelial disease, and he reported some startling results. In a paper published in the *International Medical Magazine* for 1897, vol. i, entitled The Treatment of Carcinoma of the Uterus and of Ovarian Disease without Operation, Bell spoke of curing cases of carcinoma of the uterus by the use of the thyreoid gland with curettage followed by tampons. In the speaker's experience in the use of the thyreoid gland for menorrhagia and fibroids, the results obtained had been unsatisfactory. In some cases hæmorrhage seemed to be controlled, but there were always associated great cardiac irritability and nervous depression, and he had long since abandoned the use of thyreoid gland in these cases. On the other hand, the mammary gland, when given in proper doses, accomplished all that had ever been alleged for the thyreoid gland in cases of menorrhagia due to subinvolution and in cases of fibroid tumor of the uterus, and the treatment could be carried on over long periods of time without causing any unpleasant systemic results. He had ten cases of fibroid tumors of the uterus, all of which were doing well; the tumors were diminished in size, the menstrual periods had become normal as to periodicity and quantity, and the general health had improved. Patients were able to bear certain doses of the mammary gland without having any untoward symptoms; but large doses had produced contracting pains in the tumors, and in cases where there were no fibroid tumors, large doses produced uterine cramps. Cases of menorrhagia from subinvolution, with flowing for seven or ten days at a time, responded promptly to treatment, and in the course of two or three menstrual periods they came down to normal menstruation; and the general health seemed to improve. He spoke of a patient of his, a woman, thirty-two years of age, who had had a large fibroid tumor resembling in size a nine-months' pregnancy, rising half an inch above the umbilicus. He used the mammary gland in that case, and in the course of a few weeks she reported that her general health was better, and that her next menstrual period did not come on until long after she had expected. It was three weeks before she began to menstruate again. In the course of a few months she was menstruating every twenty-eight days. During the time she was under treatment the tumor diminished in size. His experience showed that the mammary gland had a primary action upon the uterine muscle in some way, causing the uterus to contract. In conclusion, the speaker said that his personal experience seemed to show that the parotid gland relieved ovarian pain in certain selected cases, and that the mammary gland controlled hæmorrhage from the uterus in fibroid and certain cases of menorrhagia by its power of stimulating uterine contractions. The diagnosis must be accurate and, therefore, should be made under an anæsthetic before placing a patient upon this treatment. If these remedies should come to be used largely by the general profession, the danger lay in inaccurate diagnoses, thus losing valuable time in cases which required immediate and life-saving operations.

Dr. Bache McE. Emmet said he had no experience with the use of these substances, and had been much interested to hear Dr. Mallett's paper and the remarks of Dr. Shober. He thought it necessary to go slowly in undertaking so new a thing. Dr. Bell, in his paper, in August, 1896, was exceedingly enthusiastic and stated unhesitatingly that he had cured malignancy of the uterus and had diminished a fibroid uterus of the size of a seven-months' fœtus down to a quarter of the size in a few months. While using the extract, however, he carried on the treatment that was well known to be beneficial, as had Dr. Mallett also, using uterine douches and ichthyol tampons, so that there had been no fair test made of these mammary, parotid, or thyreoid extracts. Dr. Shober had referred to the effect of the thyreoids upon the epithelial growths, and in view of their known effect upon metabolism in myxœdema and kindred conditions, one might have great hope of witnessing their good influence over a much more extended range of disease. The speaker felt very conservative as to the benefits derived from these elements in uterine affections, and believed that they might have been obtained by other means employed in the cases recorded. The diagnosis was of great importance, and anybody might be mistaken at times; one would find an enlargement of an ovary, for instance, and think it a chronic disease, when perhaps it might prove to be only a normal enlargement of ovulation. He should never hope to obtain destruction of pelvic adhesions by any such method as this. Surgery would have to come to the rescue in those cases, and, as Dr. Mallett had observed, surgery had to be resorted to in many cases where he found the method under consideration was hopeless. Suggestion often had much to do with a patient's feelings after taking a remedy; the hope entertained that good was coming from the use of the medicine was instilled by the care with which the physician put the remedy before the patient.

Dr. E. H. **Grandin** said he knew nothing about these extracts from practical experience, and must pose as a skeptic. The years that had elapsed since he had devoted himself largely, lately entirely, to the diseases of women, had made him a skeptic. He began in the days when tampons, hot water, etc., were the remedies for many of the ills to which woman was heir, and he found through resort to these methods he could at best secure only palliation, never cure, of an organic disease of the pelvic organs. He then took up the use of electricity, and did not believe any one in this country had tested it more faithfully. Through electricity he often secured symptomatic cure, palliative cure, but never radical cure of any organic disease of the female generative organs. He had tested the thyreoid in fibroids, and his experience was exactly similar to that of Dr. Shober. He had obtained better results in fibroids of the uterus through a prolonged use of ergot, and from electricity, than he had secured with thyreoid, and yet to-day he would use neither, but would operate. In regard to the cases reported by Dr. Mallett, he did not think that any of them in which relief had been secured beyond mere palliation were cases of organic disease. Where the appendages were diseased, bound down by adhesions, filled with pus or mucopus, constricted in parts by adhesions, the ovaries sometimes filled with large blood clots or multiple cysts, he did not see how any drug, particularly these extracts, could possibly affect them. He did not question the fact that through the use of these extracts one might relieve the dragging sensations and in a measure the congestion, because he knew too well the careful observer who reported the cases, and the painstaking manner in which he reached his diagnoses; but for organic disease of the appendages he believed there was but one cure, and that was removal; because, if diseased, they were absolutely of no use to the woman and a source of pain. There was a vast difference between the reflex effect of the mammary gland (of the living) on the uterus and the giving of desiccated mammary gland by the mouth. When the child was applied to the breast there was contraction of the uterus, not because the woman was having extract inserted in her mouth, but it was simply the reflex effect of traction on the gland upon the uterus. Theoretically, one would expect mammary extract to cause hypertrophy instead of atrophy. Certainly the nursing infant thrived upon it! He was glad to find that those who had spoken were not enthusiastic on this question. What killed electricity was the enthusiastic way in which it was alleged to be a cure for each and every disease to which woman was heir. Those who tried these extracts were wise in reporting only palliation; but it should be remembered the same palliation could be obtained in these functional affections of the appendages through rest in bed and through regulation of the bowels. Physicians were often mistaken in their diagnoses. Abdominal surgery was full of surprises. One would make a diagnosis of a large fibroid behind the uterus, and find a dermoid cyst; or expect to find a small tube and ovary bound down by adhesions, and find instead a large pyosalpinx; look for disease of the appendages, and find a long vermiform appendix. The danger of giving these extracts without first establishing an accurate diagnosis, which could only partially be made through examination under anæsthesia, was that while administering them the disease might be progressing, sometimes to the peril of the woman's life.

Dr. W. L. **Baner** said his experience with these preparations had been very limited indeed. He had used the mammary extract in one case, which was interesting in spite of the fact that it added absolutely nothing of scientific value to the subject. A little over two months ago a young unmarried woman had consulted him for menorrhagia from which she had suffered for three years, being unwell for twelve or fourteen days at each period, and losing a large amount of blood. During the last year a persistent metrorrhagia had been added, and she had become very anæmic. The uterus was very slightly enlarged and freely movable, and a small submucous fibroid was suspected. The patient had been taking a mixture containing ergot. Dr. Brooks Wells had examined her and had suggested that before operating hydrastis should be thoroughly tried. The fluid extract had been given in large doses, but without any good result. Just about this time Dr. Mallett had mentioned his work in this direction, and it was decided to try the mammary extract. Five grains were given three times a day. It should be stated, as bearing on the psychic side of the matter, that the patient objected to taking any more drugs, as she had taken so many different things and none had ever done her any good. The next menstruation lasted only four days, and had not been followed by the usual spotting. The speaker said that he did not want to be understood as drawing any deductions. Perhaps the woman would return to-morrow or next day as badly off as ever, and have to be operated upon, but the circumstances had been interesting.

Dr. **George H. Mallett** thought they should testify as to the use of these extracts, not explain. Almost everybody would acknowledge that there was some influence on the pelvic circulation exerted by the mammary gland, and that the thyreoid gland taken by the mouth would affect the heart and also the pelvic circulation; for in cases in which the thyreoid glands had been removed these women had profuse menorrhagia. The mammary extract seemed to offer advantages over the thyreoid. In one case, that of a negro woman who refused to have her fibroid removed, the speaker gave her five grains of mammary extract three times a day. She refused to take the medicine, "would not take that stuff, it was worse than having a baby." She had the contractions. Ovarine was a valuable preparation; he used it in cases following extraction of the ovaries with marked benefit, and also in cases of menorrhagic anæmic girls without any iron; and in several cases in which the menstruation had not appeared for six months, after they took the medicine they menstruated. His experience in the work had been conducted with the writer of the paper, and the results coincided with his. Even though those patients were not cured absolutely, if they believed they were cured and continued to improve, what more could one want?

Dr. W. S. STONE said that the only experience he had had with any of these preparations was with ovarine. He had used it in, perhaps, a dozen cases and had obtained some favorable results, especially in those nervous symptoms that went with the artificial menopause. Perhaps one might form an opinion from the discussion that the treatment of pelvic diseases was hopeless, and resort to these extracts was absolutely necessary. It had been his experience at the Vanderbilt Clinic during the last five years that post-operative cases, for instance, were fewer in number each year, which, he thought, was one of the most interesting and hopeful things in gynæcology. He thought one of the causes for it was in the better recognition of the septic condition of the uterus in many tubal and ovarian diseases, so that removal of the uterus, too, was oftener done. He had had no experience with the mammary or parotid-gland extract.

Dr. E. PIERRE MALLETT said that he did not wish to be understood as stating that the parotid gland would cure all forms and varieties of uterine disease. He had distinctly said in the first place that diagnosis was most important, and while he did not lay any claim to infallibility as a diagnostician, at the same time he had had a fairly good experience, often treating and examining these patients daily for weeks, months, and years; when these enlarged and tender ovaries would gradually seem to become smaller, and the patient would say that she was sure that she felt better, he did not know what more could be asked of any treatment. One speaker had said that he did not understand how any medicine taken by the mouth could affect cases of radical disease of the appendages, and that he thought these cases could be cured only by radical operation, in which the writer of the paper entirely concurred; but, as great stress was laid on *diagnosis* and no purulent cases had been mentioned, the point had no bearing on the subject. Another of the speakers thought that rest in bed would probably have cured many of these patients; possibly it would, but rest was one of the methods of treatment that were inapplicable to the *clinic* patients; they could not rest in bed, so either had to keep around and attend to their duties or go to a hospital, and they naturally wanted to keep out of the hospital as long as possible. In regard to pelvic massage, the speaker thought it was a most valuable means of treatment in these cases, notwithstanding the disparaging remarks of some of the gentlemen, and he was of the opinion that if used with discretion and skill in the *proper* cases, its effects were readily appreciated in liberating bound-down and adherent uteri and appendages. He admitted enthusiasm in regard to these extracts, but thought that his results had warranted it, and felt sure that any one using them as he had done would feel the same way. He did not think that it would cover the entire gynæcological field, but it would certainly seem to be worthy of a careful investigation.

Book Notices.

BOOKS, ETC., RECEIVED.

A Text-book of Diseases of the Nose and Throat. By D. Braden Kyle, M. D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, etc. With One Hundred and Seventy-five Illustrations, Twenty-three of them in Colors. Philadelphia: W. B. Saunders, 1899. Pp. 7 to 646. [Price, $4.]

The Hygiene of Transmissible Diseases: their Causation, Modes of Dissemination, and Methods of Prevention. By A. C. Abbott, M. D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Illustrated. Philadelphia: W. B. Saunders, 1899. Pp. 3 to 311. [Price, $2.]

Interstitial Gingivitis, or So-called Pyorrhœa Alveolaris. By Eugene S. Talbot, M. D., D. D. S., Professor of Dental and Oral Surgery, Northwestern University, Woman's Medical School, etc. With Seventy-three Illustrations. Philadelphia: The S. S. White Dental Manufacturing Company, 1899. Pp. ix–192.

The Treatment of Pelvic Inflammations through the Vagina. By William R. Pryor, M. D., Professor of Gynæcology, New York Polyclinic, etc. With One Hundred and Ten Illustrations. Philadelphia: W. B. Saunders, 1899. Pp. 17 to 248. [Price, $2.]

Archives of the Röntgen Ray (formerly Archives of Skiagraphy). Edited by Thomas Moore, F. R. C. S., Surgeon to the Miller Hospital, and Ernest Payne, M. A. (Cantab.), A. L. E. E. London: The Rebman Publishing Company, Limited, 1899. Volume III. Nos. 3 and 4. Pp. 67 to 117.

American Pocket Dictionary. Edited by W. A. Newman Dorland, A. M., M. D., Assistant Obstetrician to the Hospital of the University of Pennsylvania, etc. Containing the Pronunciation and Definition of over Twenty-six Thousand of the Terms used in Medicine and the Kindred Sciences, along with over Sixty Extensive Tables. Second Edition, revised. Philadelphia: W. B. Saunders, 1899. Pp. 3 to 518. [Price, $1.25.]

Les Greffes urétérales. Par le Dr. P. Trekaki. Paris: A. Maloine, 1899. Pp. 135.

Cure prompte et radicale de la syphilis. Syphilis et mercure. Par le Dr. J. F. Larrieu, Médecin de l'Hôpital de Montfort-l'Amaury, etc. Troisième édition. Paris: Société d'éditions scientifiques, 1899. Pp. 10 to 134.

Transactions of the Medical Society of the State of North Carolina. Forty-sixth Annual Meeting, held in Asheville, May 30 and 31, and June 1, 1899.

Gastro-enterostomy: Indications and Reports of Cases. By Byron B. Davis, M. D., of Omaha. [Reprinted from the *Western Medical Review.*]

Advice to Gonorrhœal Patients. By Ferd. C. Valentine, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

The Disinfection of the Alimentary Canal. By A. Jacobi, M. D. Address delivered before the Medical Society of the State of New York.

Angeioneurotic Œdema. By H. F. Slifer, M. D., of North Wales, Pennsylvania. [Reprinted from the *Philadelphia Medical Journal.*]

Artificial Feeding of Infants. By H. F. Slifer, M. D. [Reprinted from the *Medical and Surgical Reporter.*]

Miscellany.

Suggestions for Improving the Efficiency of the Army Medical Service.—Dr. W. H. Devine, lieutenant-colonel and medical director, second brigade, Massachusetts Volunteer Militia, late major and brigade surgeon, United States Volunteers (*Boston Medical and Surgical Journal,* August 17th), in a paper recently read before the Massachusetts Medical Society, makes the following suggestions, some of which have been practically adopted by the Massachusetts Volunteer Militia, and which are recommended for adoption by the entire national guard: "1. That professorships of military medicine be established in every reputable medical college. 2. That until such time as professorships are established, the State provide a course on required subjects. 3. That physical examination of officers and men be made mandatory. 4. That troops at State encampments conform as nearly as possible to duties required in service on the field. 5. That every medical officer receive commission. (This pertains to contract surgeons.) 6. That one or more men in every company be detailed for regular instructions in ambulance corps, to prevent possibility in the future of the country losing the service of men especially trained for this service. 7. That one medical officer be selected in each regiment or brigade for his surgical ability. 8. That a corps of trained female nurses be organized in every State. 9. That divisional hospitals, in the broad sense, be abolished, and that small brigade and divisional hospitals be established for special cases, such as surgical and contagious. 10. That the volunteers follow, as closely as practicable, the regular army, so that when called into service together the two branches may work in harmony. 11. In addition to the present instruction in 'first aid,' a course in prevention of contagious diseases, etc., be given. 12. That a reserve staff of medical officers be formed in each State; said staff to be composed of ex-members of the medical department of the national guard."

The Canadian Medical Association will hold its thirty-second annual meeting in Toronto on Wednesday, Thursday, and Friday, August 30th and 31st, and September 1st, under the presidency of Dr. I. H. Cameron. In addition to the president's address (on Wednesday afternoon), there will be an address in surgery, on The Radical Cure of Hernia, by Dr. William B. Coley, of New York (on Thursday afternoon), and an address in medicine, on Infant Feeding and Infantile Diarrhœa, by Dr. J. T. Fotheringham, of Toronto (on Friday morning). The list of papers announced is as follows: The Best Method of Dealing with the Consumptive Poor, by Dr. E. J. Barrick, of Toronto; Floating Kidney Simulating Disease of the Ovaries and Tubes, by Dr. A. Lapthorn Smith, of Montreal; Observations on Adenoids and Enlarged Tonsils and their Removal, with Notes of Eighty Cases in Private and Hospital Practice, by Dr. D. J. Gibb Wishart, of Toronto; The Methods and Ultimate Results of Operations for Halux Valgus, by Dr. N. A. Powell, of Toronto; Report of a Case of Abdominal Pregnancy, by Dr. H. Meek, of London; An Experience in Formaldehyde Disinfection, by Dr. F. Montizambert, of Ottawa; An Inquiry into the Ætiology of Chronic Bright's Disease, by Dr. A. G. Nicholls, of Montreal; Operations for Extra-uterine Gestation, by Dr. H. H. Chown, of Winnipeg; Tuberculosis in Canadian Cattle, and its Prevention, by Dr. J. George Adami, of Montreal; The Hospital Room in Each Dwelling, by Dr. W. J. Telfer, of Montreal; The Treatment of Spina Bifida, by Dr. George A. Bingham, of Toronto; Complications and Treatment of Fracture of the Skull, by Dr. J. M. Elder, of Montreal; Recurrent Paralysis of the Third Nerve (Charcot's Ophthalmoplegic Migrane), by Dr. J. W. Sterling, of Montreal; Tuberculosis and Insurance, by Dr. J. Hunter, of Toronto; (*a*) Typhoid Infection without Intestinal Lesion, (*b*) Gastroptosis, by Dr. A. McPhedran, of Toronto; Some Observations on the Treatment of Cancer, by Dr. A. R. Robinson, of New York; Gall-bladder Surgery, by Dr. J. F. W. Ross, of Toronto; The Ætiology of Typhoid Outbreaks, by Dr. Wyatt Johnston, of Montreal; The Treatment of Cataract, by Dr. R. A. Reeve, of Toronto; Christian Science, by Dr. J. H. Richardson, of Toronto; Anæsthesia by Chloroform and Ether, by Dr. W. B. Jones, of Rochester; The Treatment of the Acute Digestive Disorders of Infancy, by Dr. A. R. Gordon, of Toronto; Rhinoliths, by Dr. Hubert D. Hamilton, of Montreal; Observations on the Relations of the Thyreoid Gland to the Uterus, by Dr. C. R. Dickson, of Toronto; The Question of Operation on Thyreoid Tumors, by Dr. George A. Peters, of Toronto; A Case of Malignant Disease of the Gall Bladder Simulating Hydronephrosis (Feeding Through the Gall Bladder for Three Days), by Dr. F. N. G. Starr, of Toronto; Cooperation of Surgeon and Physician in Abdominal Cases, by Dr. A. L. Benedict, of Buffalo; Nephrolithotomy, by Dr. B. L. Riordan, of Toronto; The Mastoid Operation in Chronic Middle-ear Disease, by Dr. J. M. McCallum, of Toronto; Ringworm in Toronto, by Dr. Graham Chambers; The Great Lakes as a Health Resort, by Dr. E. H. Adams, of Toronto; A Case of Subcutaneous Emphysema, by Dr. Frederick Fenton, of Toronto; Craniectomy for Microcephalus (with patient), by Dr. W. J. Wilson, of Toronto; Curettage, its Use and Abuse, by Dr. R. Ferguson, of London; Notes on a Case of Jacksonian Epilepsy with Operation, by Dr. D. Campbell Meyers, of Toronto; Massage and the Relief of Eye Strain in the Treatment of Glaucoma, by Dr. George M. Gould, of Philadelphia; Extreme Emaciation in Hysteria, with Notes of a Case, by Dr. T. Beath, of Winnipeg; Hydrotherapeutics in the Treatment of Disease in Children, by Dr. A. D. Blackader, of Montreal; Results Already Achieved at the Gravenhurst Sanitarium, by Dr. J. H. Elliott, of Gravenhurst; The Successful Treatment of Three Important Cases by my Combined Form of Treatment, by Dr. G. H. Burnham, of Toronto; A Case of Morbus Cæruleus appearing at Thirty-four and unassociated with any Abnormal Condition of the Heart, by Dr. W. B. Thistle, of Toronto; The Ætiology and Treatment of Eclampsia in the Parturient Woman, by Dr. C. J. C. O. Hastings, of Toronto; Cyst of the Broad Ligament, by Dr. Charles Smith, of Orangeville; The Internal Staff in Modern Hospitals: a Comparison of the American and Canadian Systems, by Dr. F. Leonard Vaux, of Ottawa; Erysipelas, with Treatment by Marmorek's Antitoxine, by Dr. A. de Martigney, of Montreal; Report of Three Surgical Cases (Cancer of the Stomach, Angeiosarcoma of the Ovary, and Splenic Abscess), by Dr. Norrys Worthington, of Sherbrooke; Surgery among the Insane—its Difficulties, its Advantages, and its Results, by Dr. A. T. Hobbs, of London; Pneumothorax from Gas-producing Bacteria, by Dr. Frederick G. Finley, of Montreal; and Gunshot Wound of the Intestine, by Dr. N. E. McKay, of Halifax. There will be a pathological exhibition to which specimens are to be contributed by Dr. A. Lapthorn Smith and Dr. J. George Adami, of Montreal; Dr. J. M. McCallum, Dr. F. N. G. Starr, Dr. J. Amyot, Dr. W. Goldie, Dr. W. B. Thistle, Dr. G. A. Carveth, Dr. George A. Peters, Dr. J. J. Cassidy, and Dr. A. Primrose, of Toronto; Dr. H. Meek, of London; Dr. H. H. Chown, of Winnipeg; Dr. W. B. Jones, of Rochester; Dr. W. T. Connell, of Kingston; and Dr. Charles Smith, of Orangeville.

Professor Röntgen to go to Munich.—According to the *Boston Medical and Surgical Journal* for August 17th, Professor Röntgen, of Würzburg, has received a call to the University of Munich.

The Military Medical Service of Germany.—Dr. Alexander Ogston (*Lancet*, August 5th), in the address on Surgery on The Medical Services of the Army and Navy, delivered at the annual meeting of the British Medical Association, said: "Although the arrangements of foreign services can not be directly adopted in our own, much which is instructive may be learned from the medical services of Germany, where, of course, compulsory service exists. In that empire every medical man who has served possesses a fixed military rank, even if engaged in civil practice, and is liable to be called upon to serve where and when required. Those who have not served in the regular army but are in private practice receive annually an inquiry addressed to them by the war office as to whether they are prepared to serve their fatherland in case of war. Every German medical man who has served in the army at all is maintained for nineteen years under military orders—that is, he possesses a fixed rank and is allotted, even in time of peace, a known military post which he would occupy if war broke out. Thus the university professors hold high military rank corresponding with their eminent civil position and scientific attainments, and are required to give annual courses of instruction to the medical officers serving in the army or navy. Such well-known surgeons as Bergmann, Bruns, Trendelenburg, and Mikulicz have to teach these classes during the Easter holidays so as not to interfere with the winter and summer sessions of the universities. Each professor has his fixed military rank assigned to him in case of war; most of them rank as lieutenant-generals, some as generals, and even higher, and in the event of war they act as consulting surgeons to the medical officers of the army in the field or base hospitals. They receive the same pay as the military surgeons, as do also the other surgeons who are liable to be called out in case of war, and some of the latter have places assigned to them in the sanitary corps, etc., so that their skill and experience are utilized in every department of the service. In time of peace German army surgeons have the development of their professional culture insured by the following measures: The most promising surgeons and assistant surgeons are sent to do duty for a year at a time in the medical, surgical, and gynæcological departments of the hospitals connected with the universities and in other large public hospitals unconnected with them. The junior and assistant surgeons are also annually sent to attend the special courses of instruction in anatomy, surgery, and operative surgery mentioned above. The senior medical officers, nearly corresponding with our surgeon-majors, at least the most competent and promising of them, have to serve in rotation in the large military hospitals in which are treated not merely soldiers but all kinds of ordinary patients; there they have to act as teachers and attend and take a share of the tutorial work among the pupils in the classes of the various professors; or they may be sent to do duty for a year in the general hospitals not only in the surgical but also in the medical and gynæcological wards. They have also to attend, as they may be ordered, annual courses of bacteriology, or they may be furnished with funds for traveling in other countries and studying their medical and sanitation arrangements. All surgical instruments and appliances in the German army are provided by the state, and in their navy this is likewise the case; every hospital in which the medical officers serve has its complete armamentarium provided for it, so that no unwise economy hampers the most thorough and modern practice of the healing art, and the same thing is true in regard to their naval medical service."

The Military Medical Service of Russia.—Dr. Alexander Ogston (*ibid.*) said: "In the Russian army and navy similar care is taken of the professional culture of the medical officers. Russia possesses six large and three hundred small hospitals connected with the army, besides smaller lazarettos; and in some of these the equipment is far in advance of anything the services possess in this country. Thus the military hospitals of St. Petersburgh, wherein are treated all medical, surgical, gynæcological, ophthalmic, and other diseases, consists of five separate clinics or infirmaries, each of which is complete in itself and possesses departments for every class of disease and even wards for paying patients. The wards are excellent and replete with appliances of every kind; and there are bandage rooms, purifying rooms, operation theatres, bacteriological departments, rooms for physical research, laboratories for teachers, and laboratories for students, all excellent and complete. Each clinic possesses eight hundred and fifty beds, a hundred and twenty of which are for women's diseases and twenty for children's; and about forty-five thousand patients are treated per annum. In these clinics the students and assistants have to work in the most thorough manner and study every kind of case. The hospital possesses a staff of thirty-four professors, seventy *privatim docentes*, and forty-seven assistants. Each department is furnished with an ample annual allowance for instruments and apparatus and can apply for and obtain additional grants for anything more that is required or for anything new and expensive. They have liberal provision of everything calculated to assist the most advanced work and investigation—X-ray rooms, photographic rooms, electrical rooms, immersion lenses, centrifuges, etc., to an extent that excites the marvel and envy of British visitors. The work in the wards, such as case-taking, temperature-recording, and every sort of examination and study of the cases, is of the very highest character, and the operations and dressings are carried out by the surgeons and qualified assistants in a fashion that is above praise.

"Russia has three thousand surgeons in her army, and any of these may, if he show ability and powers of work, obtain an order to return to study in the hospitals for a period of two years. There he has to work as a regular assistant and on proving his capacity may attain a place among the teachers of the institution, or he may be transferred to the hospital of some provincial city and there continue to perfect himself in his profession and further qualify himself for his duties in time of war. The Russian naval hospitals are arranged like their army hospitals; they exist in many parts of the empire, there being five large ones at different ports besides one or two smaller ones; they admit civil cases of all kinds, and in them the medical officers possess opportunities of training themselves in all manner of high-class professional work. In the Russian navy the medical officers who show ability can obtain permission to return for two years to the hospitals and can there advance by merit, ten every year, to become *privatim docentes* and so proceed to the position of professor; and they have the same privilege as those of the army of obtaining after ten years' service two years of study leave in the hospitals and schools, during which time they are granted extra pay. The Russian state supplies its army, its navy, and their hospitals with instruments of the newest construction, embracing appliances for special diagnosis and treatment; the operation instruments, and even the boxes that contain them, are arranged so that they may be readily sterilized by heat or otherwise; and Schimmelbusch's sterilizers and apparatus specially constructed for carrying out antiseptic and aseptic treatment under the difficulties of a campaign are supplied with them. The drugs are prepared for the services in the form of tabloids with the active principles accurately dosed and made up by the newest machinery. Dressings, bandages, and such like are prepared, sorted, made up, sterilized, and sent up from factories which are ideals of purity, ingenuity, and care in a way that is an example to the world."

The Military Medical Service of France.—Dr. Ogston (*ibid.*) stated that in the French army post-graduate courses expressly for medical officers are conducted by professors at the different universities throughout the republic, and the cost is borne by the army medical department, while a certain number of the medical officers of the active and reserve army are every year ordered to attend them, extra pay being drawn by those who do so.

A Good Thing Mother was at Home.—The *Journal of Medicine and Science* for August quotes the following from the *Sanitarian:*

"Well, Maggie," asked a teacher of a little girl, "how is it you are so late this morning to school?"

"Please, sir," was the reply, "there wis a wee bairn cam' to oor hoose this mornin'."

"Ah!" said the teacher, with a smile; "and wasn't your father very pleased with the new baby?"

"No, sir; my father's awa' in Edinburgh, and dinna ken aboot it yet; but it was a guid thing my mither wis at hame; for gin she had been awa', I wadna hae kent what to dae wi' it."

The Lane Medical Lectures.—According to the *Boston Medical and Surgical Journal* for August 10th, the Lane Medical Lectures for 1900 will be delivered at the Cooper Medical College, San Francisco, by Professor Michael Foster, of Cambridge University.

The Characteristics of the Medical Profession.—Lord Rosebery (*Lancet*, August 5th), in an address at a prize distribution at Epsom College, England, a college founded especially for the sons of medical men, referred in well-chosen terms to the medical profession. The *Lancet*, in an editorial, says: "The point of view from which he approached this branch of his subject may have struck some of his hearers as novel. The men among them not members of the medical profession may have expected to hear it associated with the triumphs of science or the alleviation of suffering, to which latter, indeed, Lord Rosebery referred. The schoolboy destined for it may have had various inducements to contemplate it or may have had it selected for him, but neither man nor boy probably thought of it as requiring 'more stubborn and obdurate courage than any other,' or of a member of it as 'fighting one lifelong battle in which he knows that he must be beaten' in a profession that is 'one long struggle in which, like the Englishman, he must never know when he is beaten until victory has gone against him,' and which 'in its essence contains, perhaps, the most supreme elements of manhood of all the profession.'"

A Third Attack of Typhoid Fever.—M. Pérochaud (*Gazette médicale de Nantes*, July 22d) records a case of a third attack of typhoid fever in a man forty-eight years of age. The attack proved fatal.

The American Association of Obstetricians and Gynæcologists, we learn from the *American Journal of Obstetrics* for August, will hold its twelfth annual meeting in Indianapolis on Tuesday, Wednesday, and Thursday, September 19th, 20th, and 21st.

A Pension for a Distinguished Physician.—According to the *Lancet* for August 5th, her Majesty's government, on the recommendation of the governor-general of India in council, has conferred on the distinguished physician Sir Joseph Fayrer, as a reward for distinguished and meritorious service, a pension of £100 per annum.

Death of Professor Balbiani.—The *Tribune médicale* for August 2d announces the death of Professor Balbiani, the embryologist, of the College of France, at the age of seventy-seven.

The Case against Christian Science.—The *North American Review* for August contains an admirable article by W. A. Purrington with the foregoing title. The author deals in this article with the absurdities displayed in Mrs. Eddy's two books, *Miscellaneous Writings* and *Retrospection and Introspection*, in the same trenchant manner as in an article on *Christian Science and its Legal Aspects*, in the March number of the same review, he dealt with her *Science and Health, with Key to the Scriptures.* In the present article the commercial and mercenary side of Mrs. Eddy's cult is elucidated in her own words, as its follies and pseudo-scientific inanities were exposed, also in her own words, in the former one. The article deserves to be widely read.

The International Congress of Gynæcology and Obstetrics, held at Amsterdam from August 8th to 12th, had under special consideration the four following important subjects: 1. The surgical treatment of fibromyomas. 2. The relative value of antisepsis and of perfection of technique in the actual results of operative gynæcology. 3. The influence of position upon the form and dimensions of the pelvis. 4. The indications for Cæsarean section considered in relation to that of symphyseotomy, craniotomy, and prematurely induced labor.

Congenital Anosmia.—According to the *Riforma medica* for July 28th, Placzek recently showed to the Medical Society of Berlin a woman, fifty years of age, who had had complete anosmia from birth, and could not recall ever having perceived any odor of any kind.

Original Communications.

THE SPHERE OF LARYNGOLOGY.

THE PRESIDENT'S ADDRESS.*

By WILLIAM E. CASSELBERRY, M.D.,
CHICAGO.

Fellows of the American Laryngological Association: In response to an invitation by Dr. Frank H. Davis, of Chicago, this association was organized at Buffalo as early as June 3, 1878, the first annual meeting having been held in New York in 1879. Years of progress, honor, and success have elapsed, and we are now assembled on Lake Michigan's shore to open our twenty-first annual congress in the city of our founder. I extend to you on behalf of the residents, on behalf of the medical profession, and especially on behalf of your own colleagues of Chicago, a most cordial welcome to the Garden City of the West.

These have been active years; a long series of volumes, each containing the transactions of an annual meeting, attest the scientific and progressive value of our labor. Many of the names therein contained are those of men who caused American laryngology, for a time, to lead the world. I feel constrained to mention thus the brilliancy of our record for two reasons: First, that it may serve as a stimulus for the years to come. See to it, fellows, that our exertions now and in the future equal those of the past. Let not the light of our enthusiasm be dimmed and ever cherish a loyalty to this association, which will induce you to present before it the results of your best endeavor. I mention it, secondly, in order that you may realize my own appreciation of the honor which you have bestowed in asking me to serve for the year as your presiding officer.

The honored custom of an address from the chair affords opportunities for suggestion looking to the welfare of our organization and of the department of medicine which it represents which would not find expression in any set paper or formal discussion. All are doubtless conscious of recent changes wrought in laryngological practice by the advance of nasal pathology and by the inclusion of the ear in the sphere of work. From a physician treating affections of the throat and chest the laryngologist is fast becoming a surgeon with a routine of practice limited to local measures as applicable to the upper respiratory tract alone. While freely conceding that progress has been realized along local surgical lines, I deprecate the tendency of the day to deal with the throat and nose exclusively in a mechanical way, as if they were organs detached. I believe it engenders narrowness of thought, and that, through habitual disuse, there is gradually lost to the physician much of that fundamental knowledge of pathology and applied therapeutics which is so essential to the welfare of the patient. Not quite two decades ago my attention was attracted to diseases of the throat and nose, in part by reason of the neglect which they at that time suffered, but more because of their intimate relationship to general medicine, affording an opportunity to specialize and yet to remain in touch with the practice of medicine as a whole. In practice at that time the consideration of laryngeal conditions was closely linked with pulmonary diseases and internal medicine.

A few had even then awakened to the real importance of nasal pathology in connection with certain throat symptoms, and ere long the nose had many *devotées*, its importance in laryngology being signalized, unnecessarily, perhaps, but without protest, by the twin designations "throat and nose," "laryngology and rhinology." But soon there were nasal enthusiasts whose idea of the subject, entire, seemed to consist in the establishment of a wide patency of the nostrils. They introduced the reversed designation "nose and throat," meaning to emphasize thereby a subserviency of throat affections, which I think scarcely exists to the degree implied. Perhaps you may recall Michael's parody, a humorous song, written for the Berlin International Medical Congress of 1890:

> "Es tröstet über manches Leid
> Uns die Philosophie,
> Doch heilen kann zu jeder Zeit
> Nur die Rhinologie.
> Stets wird die Nase angebrannt,
> Denn das hilft immer, wie bekannt."

In derogation of our specialty one is occasionally reminded by cynical friends that "there is nothing to it but boring a hole through the nose," a grotesque misconception which is quite widespread in the profession, and for which, I fear, these same nasal enthusiasts are largely responsible.

The intimacy of the ear with the throat and nose is conceded. Acute suppurative otitis and chronic suppuration, through recurrent acute attacks, are so often complications of primary nasopharyngeal infections, and chronic otitis media is so far an outgrowth of rhinitis, sæptal deformities, "adenoids," etc., that the laryngologist has the treatment of aural affections actually thrust upon him. Even the patient's discernment convinces him that the laryngologist's skill and equipment are the means best adapted to the end. And having appropriated the ear, one should cultivate an exhaustive knowledge of the organ, but as an addition to laryngological lore, not as a substitute for a part thereof. Aural enthusiasts have developed among laryngologists whose commendable studies of the ear have been a help, but who centre their attention so forcibly upon that organ as to convey the impression of neglect of fundamental laryngological precepts. Their disposition to subordinate the throat is evinced by such "departmental ditties" as "ear, nose, and throat," "otolaryngology," "otorrhinolaryngology," etc.

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* Read before the American Laryngological Association at its twenty-first annual congress.

Add to these our *confrères* in smaller towns who find it expedient to group together the eye, ear, nose, and throat, and we encompass numbers who to-day are posing as laryngologists whose education, interests, and restricted routine of practice put them out of touch with important medical and systemic phases of the subject.

Do latter-day laryngologists as a class habitually endeavor to establish the real diagnosis in the earliest demonstrable stage of pulmonary tuberculosis? Are not such patients liable to come first before us with their irritable throats, hacking cough, tendency to hoarseness, and inclination to rhinitis? Suppose they are ready to believe, and sometimes even to insist, that they have only "throat trouble" or "catarrh," are they not entitled to an exhaustive examination with a view to the earliest possible discovery of tuberculosis when present, or are they to be satisfied with the conventional spray, laryngeal injection, or series of nasal cauterizations? I recall instances in which failure to deal adequately with such cases became a reproach to the laryngologists consulted, and unnecessarily so, for the requisite knowledge and skill are only exceptionally lacking; but a disposition is shown to become enchained by a limited office routine and to permit the haste incidental to the crowded hours of the day to serve as an excuse for deferring a more searching investigation extending to the organs of the chest.

Now, it is not alleged that the laryngologist need embrace in his practice the whole broad field of chest diseases, but it is urged that he be ready to apply all the arts of diagnosis and that he be conversant with every resource known to medicine in the treatment of pulmonary conditions for the benefit of cases of laryngo-pulmonary tuberculosis, laryngo-bronchitis, bronchial asthma in association with ethmoiditis, and other conjoined pathological conditions of the upper and lower respiratory tracts.

For the purpose of diagnosis, he should acquire and retain by practice a perfection in the art of physical examination of the chest, should possess ready means of establishing the ratio of height to weight and the relation of height to thoracic perimeter and vital capacity. He should note the conformation of the chest, the temperature, and pulse rate, be familiar in a practical way with the bacteriological technique for tubercle bacilli, and ready with the use and interpretation of the tuberculin test. Familiarity with the upper respiratory tract serves as an aid in the diagnosis of pulmonary states. Slight laryngeal infiltration, disclosed only by the laryngoscope, may afford the earliest suspicion of pulmonary tuberculosis; the presence of nasal polypi and polypoid degeneration of the middle turbinated bodies, unassociated with sinus empyema, will aid in the exclusion of tuberculosis in favor of bronchial asthma or chronic broncho-pneumonia; while a critical inspection of the throat will at times afford a satisfactory explanation of symptoms, such as cough or hæmorrhage, which might otherwise be attributed to lung disease. Hence, the laryngologist is naturally qualified best of all to disclose the earliest stage of tuberculosis, or to exclude it, if he will but embrace his opportunities and look below the larynx as well as above it.

Nor will it answer to omit attention to the heart, aorta, and mediastinal contents. Paralysis of a vocal cord through pressure on the recurrent nerve by an aneurysm is a simple proposition, but more complicated ones which require a high degree of diagnostic skill are continually encountered.

Regarding the treatment of pulmonary conditions, especially tuberculosis, cases which are not complicated by affection of the throat are naturally claimed by the department of internal medicine. It is not possible, nor even desirable, to draw an absolute line at this point between laryngology and internal medicine; in practice they are bound to overlap; but, conceding that if drawn anywhere it would be here, there remains a considerable proportion of pulmonary cases in which the upper respiratory tract is so far implicated that they fall naturally under the care of the laryngologist. Hence, as before said, he should be conversant with every resource known to medicine in the treatment of pulmonary states for the benefit of cases of laryngo-pulmonary tuberculosis, laryngo-bronchitis, bronchial asthma in association with ethmoiditis, and other conjoined pathological conditions of the upper and lower respiratory tracts. He should be a good systemic therapeutist, and continue to cultivate the art of prescribing, realizing the uses as well as the limitations and abuses of internal medication. As yet only disappointment is the fruit of serum therapy in tuberculosis, but one should follow closely the literature, for every day fresh knowledge and a deeper insight are gained into the subject of immunity, and the discovery of an effective tuberculosis antitoxine may yet be hoped for. But, above all, one should study the conditions of natural immunity and susceptibility in order that, having made an early diagnosis, one may direct the mode of life and place of abode best adapted to arrest the disease and overcome the susceptibility. This implies a ready familiarity with sanitation, hydrotherapy, climatology, and sanitarium resources and methods. From the Alps, the Adirondacks, and the Rocky Mountain region come encouraging reports of the curability of incipient pulmonary tuberculosis, reaching as high as seventy per cent.* under a sanitarium *régime* which secures abundance of fresh air, sunshine, and suitable food; but we get little convincing information concerning climatic effects upon laryngeal tuberculosis. While Heryng, Krause, Gleitsmann, and others have demonstrated the value of surgical measures in suitable cases of laryngeal tuberculosis, there are yet so many which are unsuitable for this line of treatment that one turns with gratification to the reports of Solly * and Levy † from the Rocky Mountain region to find that unmistakable laryngeal tuberculosis in the proportion of twenty per cent. recovers in that climate, and that another twenty per cent. lives along indefinitely, greatly improved. That dryness and altitude were formerly thought to be inimical to laryngeal tuberculosis was probably based upon the unfortunate fact that advanced cases do badly under any conditions. Carefully studied reports from other resorts would be welcome and laryngologists at large should thoroughly familiarize themselves with the principles of climatology, in order intelligently to serve their patients who in despair beg for advice, and who otherwise will wander over the face of the earth on recommendations of lay friends and at the behest of hotel agents and railroad advertisements.

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* J. A. Wilder. *New York Medical Journal*, 1899, p. 302.

In connection with bronchial asthma, studies in nasal pathology have furnished gratifying information concerning the associated polypoid changes in the ethmoid region, and they tend inferentially to establish a vasomotor defect as the common cause of both the nasal and bronchial symptoms. Pronounced relief, and often a practical cure, may be effected by nasal treatment, but the ethmoiditis tends to recur, and prolonged observation and repetition of radical measures are essential to the best results. This the laryngologist is much more likely to secure if he show himself willing and ready to assume full charge of the case, attending not only to the nasal surgery, but exhausting the pharmacopœia and climatic resources to bring the fullest measure of cure or relief.

For a familiarity with bacteriological technique there is a constant need in the practice of laryngology. F. de Havilland Hall, in the Lettsomian Lectures, and others have emphasized the importance of the throat and nose as portals of entrance of the micro-organisms of infectious diseases. The scientific application of bacteriological principles enabled Behring and Roux to snatch from Nature herself the crowning achievements of the century—diphtheritic antitoxine. The hunt for the Klebs-Loeffler bacillus is already popularized and its importance in the diagnosis, especially of tonsillar infections, duly recognized. The search for the Cannon-Pfeiffer bacillus of influenza and for the micro-organisms of pneumonia should be reduced to the same practical basis. The patient who applies for treatment feeling ill, together with sore throat or cold in the head, and who receives the routine spray and perhaps some rhinitis tablets, only to become bedridden in a day or two with severe influenza or lobar pneumonia, has a just complaint again the laryngologist for failing to make a more searching investigation into his condition at the start. In the words of the late Harrison Allen, "We shall be raised in our esteem in the degree that we add a little more science to our art."

All laryngologists are familiar with the many throat conditions which appear as salient features of underlying systemic states, and yet, in the overswing of the movement toward localism, general pathological data, systemic therapeutics, and hygienic aids are not always utilized to the utmost. I have only to mention briefly the difficulty of controlling the excessive secretion of simple chronic nasopharyngitis without hygienic aids; the systemic defects, especially digestive derangements, which commonly underlie chronic pharyngitis; the laryngeal lesions of arthritis deformans, and the pharyngeal discomforts of rheumatism, diabetes, and gout. How often is œdema of the larynx merely secondary to chronic nephritis, and laryngeal ictus simply the forerunner of locomotor ataxia! Indeed, I might enumerate indefinitely associated throat and systemic states, but I have said enough, I think, to support the contention that the laryngologist should continue, as of old, to be first of all a good physician, and after that something more, a specialist.

Nor need a man with this breadth of view be any less skilled in the operative technique of amygdalotomy, in the correction of deviated sæpta, the surgery of the collateral sinuses, and the mastoid operation. He can appreciate the disadvantages of nasal obstruction just as well as another who perceives that only.

Gentlemen, we are assembled here to aid one another in the search for more truth; let us profit by each other's experience, search along liberal lines, and endeavor to realize Emerson's conception of power: "A cultivated man, wise to know and bold to perform, is the end to which Nature works."

IS THE SO-CALLED AMERICAN VOICE DUE TO CATARRHAL OR OTHER PATHOLOGICAL CONDITIONS OF THE NOSE?*

By JOHN W. FARLOW, M. D.,
BOSTON.

THE so-called American voice is so often referred to that I think we are justified in making inquiry as to its nature and cause. It is never spoken of in complimentary terms—quite the contrary—and our liability to nasal catarrh is considered to be the determining cause. I think we are all agreed that it is the exaggerated nasal quality, the production of the voice in the nose, the twang, which is its most noticeable characteristic, and we can omit consideration of the larynx and fauces as factors. It is not the thick, muffled voice of weak carrying power, such as occurs in cold in the head, but the high, penetrating, vibrating voice, indicating an openness of the nasal chambers, so that the voice made in the larynx finds its way into the nose.

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* Solly. *Medical Climatology*, p. 147.

† *New York Medical Journal*, July 20, 1895.

* Read before the American Laryngological Association at its twenty-first annual congress.

Any condition which hinders the passage of air into the nose, such as large tonsils, adenoid disease, postnasal polypi or tumors, enlargement of the posterior ends of the turbinals, tends to diminish the nasal resonance, and hence should not be considered as contributing to the production of a nasal voice. When we say we "talk through the nose," we mean that we do *not* speak *through* but *in* the nose, and we may distinguish between the sound made when only the very anterior part of the nose is obstructed (as when the nostrils are closed by the fingers) and when the obstruction involves the turbinals, as in acute coryza; the former sound approximating more the nasal twang.

The marked nasal sound we should expect might be produced when there is obstruction in the anterior part of the nose, as by deviations or spurs of the cartilaginous sæptum—which impede the free escape of air, which is thus made to vibrate abnormally in the nasal chambers. A blocking up of only one nostril might be sufficient. A nose very small and narrow at the tip, especially if this bends sharply downward, might produce the same effect. Again, enlargement of the anterior ends of the turbinals or anterior polypi might act, to a less extent, in a similar manner. As regards obstructions in the posterior portion of the nasal cavities, their effect would be to hinder the entrance of air into the nose, and thus prevent nasal vibration. The same may be said of adenoid or other hypertrophies in the postnasal space, the well-known effect of which is to deaden the voice.

Let us now consider the effect of chronic catarrhal conditions of the mucous membrane of the nose without hypertrophy, so often associated with a similar disease of the postnasal space. In severe cases of long standing there may be anæsthesia and paresis of the soft palate, which would diminish the proper activity of the muscles which shut off the fauces from the postnasal space, and thus some of the tones which should be made in the mouth are involuntarily formed higher in the nose and acquire a nasal character. This is well known to occur, temporarily, immediately after the removal of a large adenoid, before the palate has regained its proper strength.

Apart from the effect of the incomplete movement of the palate, I do not see that an atrophic condition of the nose tends to make a nasal voice if the method of speaking is correct. If it is incorrect, the nasal character should be more marked, owing to the greater opportunity for vibration.

For purposes of study, we may divide our patients roughly, according to age, into—

1. Children up to twelve years.
2. Those from twelve to thirty years old.
3. Those above thirty years.

I think there can be no question that the nasal voice is very common in our first class. The voices of young children at play or in the class room are often very noticeable for their nasal quality. But if we refer to the list of conditions which I have enumerated above as possible factors in the production of the nasal element we shall find little justification for it. Deviations of the sæptum are decidedly uncommon in young children, polypi are almost unknown, the paretic condition of the palate hardly exists, and hypertrophies of the turbinates, although common enough, are more likely to occur as enlargements of the whole length of the turbinals, together with hypertrophy at the pharyngeal vault. So that we are allowed to infer that an age which furnishes very many examples of nasal voice has but little in the nose to cause it.

From twelve to thirty years of age we find an increase in the number of cases of obstructing sæpta and anterior turbinal hypertrophies. Polypi are more common, and atrophic rhinitis, with some paresis of the palate, is also more frequent. I should say that the nasal voice was met with very often at this age, but not more frequently than in the preceding period, and certainly not proportionately to the increase in the causative conditions.

After thirty years of age the various pathological conditions continue, and the sclerosing inflammations of the mucous membrane become more marked. About the frequency of the nasal voice, my impression is that it is rather less common than earlier in life, perhaps in the sense that there is a larger proportion of voices with no nasal intonation, although there are many very marked examples of the nasal twang; while in the young those who speak without any nasal twang are decidedly fewer.

In a general way, I should say that, considered from the standpoint which I have referred to above, we were not justified in thinking that the condition of the nose was the important factor in determining the nasal voice. In fact, I feel sure that the members of this society would be unable to classify their patients' voices into nasal and non-nasal by mere examination of the nose, unless, perhaps, in some cases of marked sæptal deviations. I do not, of course, allude here to the kind of voice produced by acute coryza, marked general turbinal hypertrophies, etc., where the voice is deadened and nasal respiration obstructed.

If we are correct in the opinion that the condition of the nose is not the principal factor in causing the faulty voice, we should certainly expect to be able, in many cases, to improve the manner of speaking without medical or surgical treatment of the nose. Many excellent singers have throats and noses which are far from normal, and pathological conditions have more to do with the range and power of endurance of the singing voice than with its proper quality in the medium registers and when used in moderation.

A boy eight or nine years old was brought to me for a very nasal, twangy voice. There was some deflection of the sæptum nasi, but otherwise the nose was in excellent condition. I was asked if correction of the sæptum would take away the disagreeable quality of his speech. I knew a number of his playmates and noticed that nearly all spoke in the same way. I told his mother that if his companions continued to speak as they now did it would be only natural for him to imitate them whether his sæptum was straight or crooked. The following year he went to a school in another country, and when I next saw him I found that his nasal voice had almost entirely disappeared, while his sæptum remained as before.

A theological student from a small country town consulted me with reference to the removal of a sæptal spur which caused him some discomfort in breathing at night. His voice had quite a marked nasal twang, and he tried to get me to assure him that after the removal of the spur his voice would improve very much. I told him I could relieve his breathing, but would have to resort to other measures about the voice. The removal of the spur was followed by freer breathing, but no particular change in his voice took place until after a course of exercises in the proper manner of placing and using his voice in speaking.

These are merely examples to show, one, the effect on the boy, without operation on the nose, of removing him to a school where he had no nasal voices to imitate, and the other, the effect of voice training in the young adult after an operation had failed.

On the other hand, if we examine some of our best speakers and actors we shall find that they very often suffer from the same pathological conditions of the nose as those who have poor voices. I have in mind a public speaker with clear voice of great carrying power without effort. I had always supposed that he was the possessor of unusually good vocal organs, but I found a very bent sæptum, and also a number of polypi.

A clergyman with absolutely no twang and a wonderfully good speaking voice, had a very marked obstructing ridge of the sæptum with turbinal hypertrophies. He had learned to speak well before these latter appeared, and their presence, although causing him some discomfort in breathing, were without appreciable effect on his voice. Such cases are common in the experience of you all, and are not exceptional cases of the few who are able to surmount what most are unable to overcome.

The anterior obstructions of which I have spoken are common in all civilized races, and there is no reason for thinking that any peculiarity in the American voice is due to what is possessed by others equally with ourselves. The parts of our country where are the oldest centres of civilization and education should be the places where most attention is paid to both the singing and the speaking voice, and this is probably the case. But in our old country villages, distant from the populous centres, the voices of the natives are well known to have the nasal twang without regard to the conditions of the inside of their noses.

It is not at all surprising that the presence in many parts of our country of so many recent immigrants from Europe, many of them entirely uneducated, should make us so accustomed to all sorts of pronunciation of English that we are, to a certain degree, indifferent to the importance of correct methods of speaking. There is plenty of evidence that pathological conditions of the nose are very common, but they are not more numerous in places where the voices are nasal than elsewhere, and there is no question but what training of the voice, especially in childhood, will do more to improve the speech of the coming generation than treatment of the nose. In September our daily papers are filled with notices of singing teachers, but for every one who aspires to sing there are one hundred who use the voice for conversation only. These latter are content to speak after the manner of the community in which they live, and no thought is given as to whether this is a proper manner or not.

OBSERVATIONS ON
THE TREATMENT OF HAY FEVER.*

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About the vicinity of New York the experience of that special form of disease or irritation which we call hay fever was specially unfavorable during last August and September. There seemed to be a veritable invasion of the disease. I do not know whether the special irritant was unusually present or severe, or whether the noses of the sufferers happened to be abnormally involved, but it was apparent that in old cases the patients suffered severely, and new cases were more numerous than we have seen for many seasons.

Perhaps some one has, from his observation or experience, developed a new theory of the disease; perhaps he may care to express his recent impressions; perhaps some line of new treatment has been tried successfully in the past warm months. If these points are brought out here, if the subject can be clarified by exchange of experience and discussion, the few moments this paper requires will not be foolishly wasted.

One can not in a short paper, or in a single evening, review all the therapeutical measures introduced for the relief of this troublesome disorder, or even touch at all in detail upon the salient theories of pathology or ætiology, however extremely interesting they are. It will be necessary, then, to devote our time to the methods which to-day are giving the best results in hay-fever cases both as to the relief and cure, and to touch pathology and ætiology only as they present practical points in the treatment of the affection.

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* Read before the Section in Medicine of the New York Academy of Medicine, March 21, 1899.

Every one is familiar with the hay-fever seizure; the sudden advent of symptoms with scarcely any prodromata, whether it be the ailantus colds of May (?), the rose colds of June, the hay fever of August, or active at any time when the sufferer is exposed to his particular irritation, such as dusty rooms, particular odors, certain fumes of chemical or burning substances, or that invisible something arising from full-blown flowers, such as the ailantus, roses, hay, ragweed, golden-rod, asters, chrysanthemums, etc. The attack is so sudden, the onset so vigorous that all prodromes are absent, unless we express as a symptom the anxiety of the patient, who knows full well that in a particular week the attack will develop. I have seen a hay-fever attack develop all well-marked symptoms in two minutes, and have observed the dilatation of the conjunctival vessels, the venous sinuses of the nose, and the pharyngeal congestion fully established in a minute and a half. With attacks so completely and suddenly developed prodromal symptoms are few or unnoticed. Sometimes anxiety or exhaustion and lassitude marks the invasion. Each year the certainty of an attack is assumed at the expected season, which may account for these prodromal symptoms. There is no mistake about the attack itself—the sudden onset, the conjunctival congestion, and, later, the slightly purulent conjunctivitis, the obstructed nares, the nasal headache, the pain from involvement of the frontal sinuses, the sneezing, the discharge, the itching, tickling, and coughing from the pharyngitis, and, after a few days in most cases, the asthma and subsequent bronchitis. The general symptoms are often overlooked, but to my mind they are of great importance, for they regularly occur, and indicate a disturbance deeper-seated than the nose. Lassitude, exhaustion, anæmia, disturbances of digestion, high-colored and scanty urine, rapid and feeble pulse rate with diminished tension, together with the regular afternoon temperature of 100°–102° F., and quite frequently chills or chilly sensations complete a picture of unhappiness, illness, and woe quite equal to that of the usual malarial attack. Is it not possible that these patients are suffering from a greater disturbance than a local irritation, a true systemic condition?

The characteristic attacks begin from about August 20th to the 24th in this climate, reach the maximum of severity in two weeks, and subside with the first frost. In special cases, however, symptoms are likely to develop after the type is well established upon almost any irritation and at almost any time of the year, although patients are usually most comfortable in winter.

There are two grand divisions in these hay-fever cases—those *who have* nasal lesions, and those *who have none.* The times of suffering are about the same, the severity of the symptoms is equal, the sequelæ are alike, and the difference is mainly one of condition of the nasal cavities.

The cases in which there are no discoverable nasal lesions are in the minority. We remark that the patients are not robust, are generally in poor health, suffer from forms of neurasthenia most of the time, or complain of attacks of rheumatism, asthma, or gravel. They have sometimes vasomotor disturbances elsewhere and suffer especially from hives.

We say they are nervous patients or uric-acid sufferers, or what not, but we do not explain the cause of the disease. Perhaps you can tell me why I can enjoy immunity from this disease, can inhale dust of all kinds, can revel in flowers, roses, and asters, although suffering considerably from the results of a nasal catarrh and a well-developed hypertrophy of the middle turbinated body, and my patient *with no recognizable lesion* can not enter my office where flowers are arranged without developing instantly a nasal vasomotor paralysis which congests the turbinated bodies and brings on coryza and conjunctivitis. Why does my housekeeper, who has no nasal lesions, as we commonly understand them, suffer every sweeping day all the symptoms of hay fever from this dust, while my patients with well-organized synechia, ecchondroses, and other pathological lesions never mention dust irritation?

Here is a stumbling-block which must be explained away before we proceed. We must try to understand why hay fever may develop without any recognizable nasal lesion. It will help us in treating the disease. Rhinologists will answer you that some lesion must be present to complete the causative chain and say it is made of three links—viz., a special irritant (pollen), a nasal lesion, and a debilitated or neurasthenic patient. This is undoubtedly true in a large majority of all cases. There still remain cases with one link broken and no discernible nasal lesion. It seems that the cause must lie in that great nervous system of which we have much still to learn. A few common instances may help us to explain this class of cases. You are all familiar with the fact that preputial adhesions can cause serious general convulsions; that an injury to the little finger can make the whole hand ache; that a sharp, circumscribed blow upon the shin is felt over the entire leg and thigh, and that an irritation of a dental filament can cause general neuralgic conditions. These are all common examples of a special sharp or inflammatory irritation of a terminal nerve filament causing disturbance far outside itself. Why is it not possible for some filament of the extremely sensitive nasal nerves by its reflex action to produce all the vasomotor disturbances which we call hay fever, especially if this nerve is in a hypersensitive state from general constitutional conditions, and at such times meets the special irritant of dust or pollen or smoke? Here, I think, is a fair explanation of the manner of development in hay-fever cases without recognizable lesion in the nose. To account for the extremely irritable condition of these nerve filaments we can at once assign as special irritants the various classes of internal derangements accompanied by blood disturbances, uric acid, rheumatism, absorption of improper products of digestion, etc. Authors have always maintained that uric acid played an important part in the production of hay fever; others, that rheumatic conditions did the same.

It is quite a comfortable classification to recognize, then, that there are cases of hay fever due not to any special disease of the nose, but caused by an irritant acting from outside upon nerve filaments made hypersensitive by nervous exhaustion accompanied by loss of vasomotor balance, or by nerve filaments irritated to disturbance from materials exuding from the vascular structure in the nose. There at once we can classify all the cases caused by digestive, uric-acid, or rheumatic conditions under the one class of "vicarious elimination."

The histological structure of the nose makes this theory extra plausible when we remember that the secreting power of the nose is quite remarkable. There is in other organs a secretion from the glands, but in the nose there are not only millions of glands secreting constantly, but a serous and watery exudate is furnished to the tissues direct by the special erectile tissue (the turbinated bodies), and, besides, lymph exudes through microscopic lymph channels upon the surface of the mucous membrane.

The cases of hay fever *presenting nasal lesions* are in the majority. It is easy to understand that nerve filaments have acquired a hypersensitive condition as the result of any inflammatory change in the nose; also, that points of nasal tissue in contact, or adherent, give rise to disturbances of circulation, these to congestion, and afterward to leucocytic infiltration and new tissue formation. It is not difficult to see that exostoses, ecchondroses, polypi, and enlarged turbinated tissues act as foreign bodies upon a very sensitively nervous organized tissue. And it is not difficult to believe that the removal of these irritants results favorably for the relief of hay fever. Only remember that after the recognized pathological conditions have been removed an irritable condition remains which demands consideration.

The treatment of this malady must be considered under four different divisions, to wit:

1. A treatment of the cause. (*a*) Local irritant, (*b*) vicarious elimination, (*c*) vasomotor sensitiveness, (*d*) neurasthenic conditions, (*e*) uric-acid diathesis.
2. A treatment of the attack. (*a*) Local, (*b*) general.
3. A treatment of general symptoms. Quinine and Warburg's tincture.
4. A treatment between attacks.

The attacks of hay fever are produced by the effects upon the supersensitive or diseased nasal mucous membrane of irritating particles in the atmosphere derived mainly from the exhalation of pollen of certain plants. This irritating activity resides in the products not only of the ordinary dried hay, but in the living plant, which throws off the pollen in large quantities. The timothy grass, *Ambrosia artemisiæfolia*, stench grass, broom grass, honey grass, foxtail, gladiolus, ailantus, rose, aster, chrysanthemum, triticum, sea kale, and avena have been cited as causative in this affection, and Blackley attributes the hay-fever production to seventy-four separate forms of pollen. All patients are not susceptible to irritation of the nasal membrane and the subsequent hay-fever symptoms from each one of the seventy-four kinds of pollen, but suffer from a special irritation from one or several varieties. If possible, these patients should by observation determine which plants are active in their cases, and should move, during the pollen-producing period, to a region where these forms of plants do not grow. Great altitudes are generally beneficial, and certain regions are reputed free from pollen, especially the White Mountains. Some patients do well on sea islands about twenty miles from the shore line. Very susceptible membranes are irritated enough to produce an attack whenever ordinary floor or street dust is inhaled. A respirator has been devised to place over the mouth and nose, and some relief is experienced if this is worn in the street. This respirator is more commonly worn in England than here. A dampened towel or handkerchief folded to two thicknesses and placed over the nose and mouth will thoroughly filter out all the irritating particles from the air, and forms a ready means of preventing the attacks from house sweeping and dusting. It must not be removed until all the particles of dust are deposited from the air.

Remember that blood charged with noxious elements of imperfect digestion, and chemical substances at present unrecognized and unknown, tends to rid itself of this material in the nasal mucous membrane. The deposit of this material acts upon irritated nerve branches and produces the symptoms of vasomotor disturbance. This vicarious elimination must be regarded as a possible cause, and all the other organs of excretion must be stimulated to do better work. The proper amount of exercise must be insisted upon, the diet arranged with simple but nutritious food, and the regular action of the bowels attended to. If vicarious elimination is considered in any particular case as causative, the diet should be scant, with solids for three days, after which small quantities of white meat and some cereals may be used.

Vasomotor disturbances or disturbances of circulation, manifested by easily taking cold, blueness, pallor, or blushing, cold hands and feet, and palpitation of the heart, must be treated by cold sponging every morning, cold baths, and cold spinal douches, and the circulation steadied and regulated by small doses of quinine and digitalis.

Neurasthenic conditions are also a cause of hay fever, and must be combated by exercise, rest, change of occupation, iron, quinine, and strychnine. A long list of nervines, so called, has been recommended for the neurasthenic condition in hay-fever patients, but my experience is that the drugs to use are exercise, rest, and change of occupation and environment. Bosworth, however, speaks of belladonna, zinc, arsenic, phosphorus, hydrocyanic acid, valerian, bromides, and opium—a long list, which I mention only to condemn, especially the use of opium in any form.

If uric acid or rheumatism is suspected to be the causative element in a case of hay fever, proper means of elimination of the irritant must be considered. It is generally recognized as a cause by the patients, who have noticed that the rheumatism comes on or the urates or uric acid appear in the urine rather regularly, either before or after an attack of hay fever.

Of great use in this class of cases are saline purgatives, Turkish or hot baths productive of profuse sweating, the rapid elimination by means of diuretics (potash, digitalis, water, and lithia), together with a carefully arranged diet list, such as for gout and rheumatism.

Formerly the only relief possible for the sufferer from this troublesome malady was to reside during the entire period of this disease in a place where he was not affected by the irritation causing the attack. The great expense, deprivation, and interference with his business or home duties often prohibited his absence, and he went through the days, until frost appeared, a very great sufferer and very ill. The treatment of the attack has been advanced so far to-day that patients need no longer seek a residence in the hay-fever resorts during the pollen season, but may remain at home, and with constant attention run through the hay-fever period with only enough sickness to make them feel wretched or somewhat weakened and depressed. The local symptoms, discharge, sneezing, asthma, headache, etc., can now be controlled and the general symptoms combated with success. The treatment of the attack resolves itself into a local and a general treatment.

The local desiderata in the office treatment are: 1. To cleanse the membrane of irritating pollen or mucus and pus. 2. To relieve the hypersensitiveness of the overirritated nerves. 3. To restore the tone of the overdistended blood-vessels and cause their shrinking and the shrinking of the mucous membrane.

The home treatment of the local condition should be directed to keeping down the irritation, restoring the blood-vessel tone, and protecting the nasal membrane.

The constitutional treatment of the attack consists of preventing the vasomotor dilatation and combating the unfavorable general symptoms.

To cleanse the nasal membrane we may use a douche. If the douche is used quite warm (106° F.), or even hot (114° F.), it also fulfills the second requirement and relieves the supersensitiveness of the membrane and contracts the blood-vessels. The douche is used as follows: As a preliminary to its use, the nose is gently sprayed with a watery one-per-cent. cocaine hydrochloride solution, which slightly contracts the tissues and, by partly anæsthetizing the nose, permits the use of hotter water. The douche bag is filled with hot water, and in it is dissolved enough salt to prevent any exosmosis from the tissues; one drachm to one pint sodium bicarbonate may also be added in the same strength if any adherent mucus refuses to come away. The bag is placed six inches above the level of the bent head, and before and during the douching the patient must breathe freely through the mouth. If the head is well bent over and all breathing is carried on by the mouth, the water will simply run from the douche nozzle into the nose around the sæptum and flow out the opposite side. The slightest desire to swallow should be avoided, and if the water refuses to flow freely from the opposite side to its entrance the nozzle must be at once changed to the other side. In case the patient desires to blow his nose the douche must be checked, all free water allowed to flow out, and the nose blown with *both sides free*, and neither side closed with a handkerchief. If these details are properly attended to not a drop of water will enter the frontal sinus, the antrum, or the Eustachian tubes, and all ill effects of the nasal douche will be avoided. Two quarts of water should be used for its cleansing and contraction effects, and after complete drying, by gently blowing, the second indication may be fulfilled.

The nose is now treated with that most valuable remedy for hay fever, cocaine. A four- or six-per-cent. solution is used to obtain a distinct therapeutical effect—viz., to relieve the supersensitiveness of the overirritated nerves and to contract the overdistended blood-vessels. This remedy is applied only on cotton pledgets, packed cautiously against the obstructing parts, left in place four minutes, and removed. If any unpleasant effects of cocaine are perceived, the patient is given whisky or digitalis or aromatic spirits of ammonia in full doses. Of course, it is distinctly understood that this cocaine is administered in the office treatment and never in these strengths at home. I am also particular about the douche, and prefer to use it only when directly under my own observation, until the patient has learned how to safely use it. After the cocaine has been used the supersensitiveness may be further treated by means of some slight cauterizant, the effect of which will last for several hours. There are three remedies safe to use in this condition, and they are best applied to the nasal mucous membrane on pledgets of cotton or by spray.

Silver-nitrate (ten grains to one ounce) solution is useful, but causes some reaction and burning.

Phenol camphor (two thirds camphor, one third carbolic acid) is slightly cauterizant and useful. The remedy of greatest use is Clark's solution, composed of—

℞ Mercury bichloride .... gr. j;
Quinine hydrochloride .... ʒj;
Glycerole of carbolic acid (B. P.) .... ℥j.
M.

Sajous recommends more active cauterization of the sensitive area by drawing lightly over this area the knife of the electro-cautery. I can not believe anything useful of this procedure.

The home local treatment consists of using the hot douche, as described above, whenever the physician is certain that the patient can use it without danger to his ears or accessory sinuses, together with the introduction afterward into each nasal cavity of the following soothing protective:

℞ Cocaine (alkaloid) .... gr. ijss.;
Zinc oxide .... ʒj;
Bismuth subnitrate .... ʒss.;
Albolene (liquid) .... ℥j.
M.

Shake and use with a medicine dropper every two hours; after the very acute symptoms have subsided we may substitute an oily spray as a protective to the mucous membrane. A favorite formula and a non-irritating one is—

℞ Menthol .... gr. ij;
Eucalyptol .... gr. j;
Benzoinal .... ℥j.
M.

The general treatment of the attack is very important, for by this means we control the action of the vasomotor nerves and relieve the attacks of overdistention of the erectile tissue of the turbinated bodies. Acetanilide, digitalis, and quinine, the first used cautiously, the other two in full doses to produce physiological effects, act admirably upon the vessel tone and relieve the constitutional symptoms from which patients suffer so severely. The most important remedy to use internally is one rather new in therapeutics, but its use seems to be established beyond a doubt. I refer to the internal administration of the dried suprarenal glands. I can not speak over-enthusiastically of the beneficial and apparently specific effects of this remedy when administered in full doses. Without exaggeration, I may repeat that it is in my experience almost a specific for the symptoms of hay fever, and a remedy to safely and surely restore the overdistended condition of the nasal erectile tissue.

I have never been courageous enough to use it without giving the patient at the same time all the relief to be obtained from local treatment, but it has acted so promptly and so regularly that I have been sorely tempted to abolish local treatment and depend upon it alone. The remedy is used either alone upon the mucous membrane by means of a spray, a watery solution of the glycerin extract being employed, or it is given internally, such as the powdered dried suprarenal glands compressed in tablets. Used either way, the effect seems to be equally prompt and successful, resulting in a very satisfactory vasomotor condition in the course of twenty-four hours and a thorough control of the disease in forty-eight hours. The tablets are given to adults every two hours day and night until some prostration, giddiness, or palpitation is felt, or until the local examination of the nasal membrane shows that the remedy is controlling the vasomotor paralysis; then, with the cessation of the discharge, the relief from irritation and sneezing, and when the partial restoration of the nose as a respiratory organ is accomplished, the dose is given at longer periods—every three hours, then every six hours, then twice daily—and the administration of two tablets a day is continued throughout the hay-fever season. If disagreeable symptoms reappear because the dose is too rapidly diminished, the dosage may again be increased until the symptoms are controlled.

If used in a spray, the nose is treated every three hours. While the use of the remedy is yet in its infancy, I may be premature and unwise to sound its praises so roundly. The fact remains, however, that it in some way marvelously controls the vasomotor nerves of the nose; that there is a marked reduction in the size of the turbinate bodies, with wonderful lessening of irritability, and an almost complete cessation of the coryza and sneezing; that an improvement in the conjunctival condition can be observed by the physician in less than forty-eight, and sometimes twenty-four hours; and that under its continued administration the patient remains in comparative comfort during the remainder of his attack.

With the onset of frost the serious work upon the noses of those presenting any lesion must begin. Deviated sæptums must be straightened; contacts, synechia, and polyps must be relieved; congested areas must be cauterized, adenoids and tonsils treated, and, in fact, the entire nasopharyngeal tract investigated and all pathological conditions cured. The details of this work would indeed fill a book, and have no interest for us now, except to remind us that the results of such work, if carefully done, are most gratifying. Indeed, you may expect to cure a majority of your patients permanently of attacks of hay fever by surgical work upon the nasal interior. When heredity plays a rôle in causation *the cure is hopeless*, although in these hereditary cases the attacks may be rendered less severe.

The Color of the Hand in Malaria.—Dr. Albert L. Bennett, writing from Libreville on the Congo (*Colorado Medical Journal*, August), has on several occasions noticed a peculiar bright pink coloration of the skin covering the thenar and hypothenar eminences of white men resident on the west coast of Africa. In most of these cases the pink color appeared consecutively to recovery from an attack of hæmaturic ("black-water") fever. Dr. Bennett wonders if physicians in the Southern States of America have noticed this coloration of the hand in association with malaria.

BOVINE TUBERCULOSIS IN ITS RELATION TO MAN.

By EDWARD MOORE, M. R. C. V. S.,
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THIS subject is a story old—older than many of the hills and valleys that beautify the landscape to-day, older than some of the islands of the sea. I speak of its antiquity because in this country bovine tuberculosis was rarely recognized until 1890. The disease in cattle has been described in veterinary works, printed mainly abroad, under such headings as tubercle, consumption, wasting, pining, and scrofula; also called angle berry and grape disease by butchers, because of the knotty growths found by them in affected carcasses, and it has been known to veterinarians abroad for a great many years; yet our stock papers, agricultural journals, veterinarians, and the American public generally gave the subject no importance prior to the year above mentioned. I searched the volumes of the *Country Gentleman* for ten years prior to 1890, and, outside of articles by the author of this paper, the subject was not mentioned until December 19, 1889, when it was stated that "cattle tuberculosis seems to be spreading on the continent of Europe, according to the statistics produced before the Veterinary Congress lately held in Paris. Of cattle slaughtered in public abattoirs, more than one per cent. were found affected with the disease." One might search back to the landing of the Pilgrims in vain for information on this subject prior to 1888. At a meeting of the New York Farmers at the Metropolitan Club, February 18, 1896, Mr. Theodore A. Havemeyer said: "I have been for a long time a breeder of cattle, as was my father before me. Up to 1888 I think tuberculosis was not known by my father; up to that time it certainly was not known by me." The organization he was speaking to is composed of about eighty of the wealthiest and most representative men in this country, who own high-class stock farms. Every member had large sums in pure-bred cattle, and was vitally interested in all such subjects, and, although many of them had had tuberculosis in their herds for years, they did not know it. The medical profession up to this time was in no way exercised over the danger of the communicability of tuberculosis from the bovine to the human race, nor, indeed, did they lay much stress on the infectiveness of the disease from person to person. Then suddenly all America was stirred by articles from veterinarians, physicians, and laymen. Later, laws were enacted, cattle commissions appointed, inspectors were sent out, herds were subjected to the tuberculin test, and animals that gave satisfactory reactions were killed. Many physicians went to see post-mortems, were convinced of immeasurable dangers, and fell into line. Stock owners trembled and the public was in a panic, and saw more danger in milk than in rum. The tidal wave swept over the country; State and local boards of health, medical and veterinary medical societies, agricultural societies, farmers, grangers, dairymen, milkmen's associations, and the nail-keg and soap-box aristocracy of the country store were all discussing the "new" disease in cattle and its relations to man. The disease, however, was not "new," in fact, is one of the oldest, but it was new to most of the people and it served as a great scare. It was treated as if it were a most desperate scourge just imported into the country, when, as a matter of fact, it was no more prevalent in proportion to the number of cattle than it had been.

Legislative Appropriations for Stamping Out.—The chief aim of health boards heretofore has been to destroy tuberculous cattle; the greater the number condemned and slaughtered, the greater the glory. No matter that it struck consternation into the ranks of the proprietors of a great industry. No matter that in many cases the richest blood of heredity in pure-bred herds was forever lost—lost though it had cost lifetimes and fortunes to obtain; lost through the wanton, needless, insatiable thirst for a big killing bee. What did it matter that a great paying institution employing many hands was wiped out; that the proprietors were financially ruined; that employees were thrown out of work; that great farms were deserted? Slaughter was the war cry. Salvation they dreamed not of. If it were proved that our people contracted the disease from the cattle, I would heartily favor such slaughter. Or from the cattle-owner's standpoint I would favor it if assured that the undertaking were practical, and that its cost would not be too exorbitant, and that the infection could then be kept out of the State. The framers of the laws under which the inspections have been made and the members of the State boards of health seem to have given no thought to the immensity of the task, or the expenditure such a plan entails. If they have, we have not been told how they propose to succeed. The yearbook of the Department of Agriculture for 1897 states that the government has made and distributed to State authorities sufficient tuberculin to test fifty-seven thousand cattle. The census of 1890 gave New York State alone 2,131,392 cattle. How much tuberculin would be needed then to examine the cattle in all the States? The United States Government reports for 1897 placed the number of milch cows at 18,113,000; other cattle, 32,647,000. Total valuation, $877,169,414. If we could wave over this State a fairy wand and thus instantly banish all bovine tuberculosis, how long would the immunity last, while the remainder of this vast country is full of infection, and the bacilli can retain their vitality for months in a bale of hay, and the winds can blow them over the borders? I know of a stock farm where $100,000 was spent for farms and buildings, and $30,000 for pure-bred cattle, and in about a year these cattle were disposed of at any price on account of the methods pursued by the State in which the farm is located. Tuberculosis in man, and such of the lower animals as are susceptible to it, is generally recognized as a specific infectious disease due to the tubercle bacillus, and this bacillus in either species is considered as practically the same. We are interested in this paper with tuberculosis in the human and bovine species, the two great families in both of which it exists to an alarming extent. The disease occurs in a limited way in several of the domestic animals other than the ox, but assumes very little practical importance so far as they are concerned. The disease is a slow and insidious one, wholly different in this respect from such diseases as cholera and small-pox of the human, or cattle plague of the bovine. Tuberculosis in cattle does not necessarily kill; on the contrary, many animals maintain ordinary health and high condition, apparently suffer no inconvenience from it, and finally die of some other cause. In other instances there are signs of constitutional disorder with more or less of the symptoms common to it, and in acute cases followed by death within a few weeks or months.

Breed.—All breeds are susceptible. It has been erroneously believed that Jersey cattle were most prone to tuberculosis, but the royally bred and the common scrub are alike subject to it, just as the various races of men are.

Sanitation and Spontaneity.—The old writers gave as some of the causes of tuberculosis bad ventilation, filth, and insanitary conditions generally. No combination of ill conditions can produce a single case of the disease, nor can the most perfect and elegant buildings and hygienic surroundings offer immunity from it. Of course, this is easily accounted for now that the means of infection are understood.

Heredity.—Dobson, quite an authority a few years ago, in his work on the ox, says: "There seems to be no doubt as to the hereditary character of this affection, so that in no case should a bull be chosen from stock which are thus diseased. . . . A report to the parliament of Victoria, New South Wales, in 1886, says that heredity certainly plays a most important part in the propagation of the disease." This is the opinion of about all veterinary writers. Since the discovery of the tubercle bacillus, and the application of the tuberculin test, it has been found that calves from tuberculous dams, if removed immediately after birth from all chances of infection, rarely show disease. Heredity has but small claim to attention now.

Predisposition.—We have been assured by all writers that predisposition and conformation were most important factors. We know to-day that no matter how narrow-chested and weak constitutionally an animal may be, tuberculosis can not occur without infection, and it does not seem to select the puny ones especially.

Contagion.—We have seen that most of the old ideas about tuberculosis have been dissipated, but its infectiveness is beyond cavil. That it will spread among healthy cattle when they are kept with diseased ones is well known.

Tuberculin Test.—This has been stated by many to be an infallible guide in the diagnosis of bovine tuberculosis. I may say that it depends largely on the infallibility of the man who uses it. If a correct selection of animals is made, leaving out any that should not be tested, and the proper amounts of tuberculin are used for the varying ages and conditions, then if the temperatures are taken without errors, we shall have tables that, if correctly interpreted, are very valuable in determining the number of animals that are free from tuberculosis, and the number that are not. But tuberculin is not an automatic machine; it requires brains, judgment, and experience to make a test and then read the answers correctly. When used with these prerequisites, it is a highly efficient diagnostic agent.

Percentage of Diseased Cattle in Herds.—In some herds of cows of dairy age the percentage may run from twenty to ninety per cent., and now and then a herd may be found in which every animal is infected. In herds in which there is a goodly number of young animals the percentage is smaller. Young animals are comparatively free from it. Mature cows give the largest percentage of victims, those from a year and a half to three years old the next, and those less than a year old the least. There seems to be diversity of opinion among physicians as to whether tuberculosis is more common in adults or children. This point should be settled, and it should be demonstrated how and from what source infants obtain infection. It has been convenient up to this time to attribute thousands of cases to the ingestion of cow's milk. The *Veterinary Journal*, London, England, for June, 1889, gives an account of a meeting of the British Medical Association at Glasgow, and Dr. Carpenter stated that eighty per cent. of the cattle sent to the principal meat market in London were affected. Professor McCall said that twenty-five per cent. would be nearer the mark for Glasgow. In Saxony it is said to be about one per cent; in Berlin, 3.2 per cent. New York State Tuberculosis Committee's *Report* for 1895 states that about seven per cent. is figured as the average for the whole State. The writer examined a herd in this State last week in which twenty-seven out of thirty animals were tuberculous, and some were in the last stages of disease. Three youngsters were free from it. Another herd examined in Connecticut gave about fifty per cent. of diseased adults. Nearly half of the healthy ones were under two years old.

Transmission.—We have now arrived at the point upon which hinge very largely the health and welfare of humanity and the fate of millions of dollars' worth of cattle. Is bovine tuberculosis communicable to the human subject? This is the paramount question, and it must be intelligently answered. The physician, the biologist, and the veterinarian are called upon to solve this problem, and below we given opinions from each, as well as from the State board of health, using these merely as examples of the universal opinion on the subject. We have noticed that so far as heredity, breed, sanitation, spontaneity, and predisposition are concerned, there has been a vast amount of error taught, We will now consider transmissibility. J. H. Girdner, A. B., M. D., in an article published last month on disease germs and how to avoid some of them, states that "the other principal source of human infection is from drinking the milk and eating the flesh of tuberculous cattle. Tuberculosis in children usually manifests itself in diseases of the bones and joints, white swelling, and in enlargement and suppuration of the glands of the neck. In nearly all such cases the infection comes from drinking milk from tuberculous cows." Bulletin 118, New Jersey Experiment Station, on the suppression and prevention of tuberculosis of cattle and its relation to human consumption, by Jules Nelson, biologist, contains these words: "But it is principally for man's sake that the lower animals should be included in the general scheme for freeing the country from this evil." In the *Journal of Comparative Veterinary Medicine*, December, 1897, C. C. McLean, veterinary surgeon, and a milk inspector in Pennsylvania, contributes an article which was read before the State Veterinary Medical Society. The following is a part: "The houses of the wealthiest in the world and the homes of the poorest testify that our meat and milk supply cause thousands of deaths from this disease every day. Tuberculosis is therefore the most important disease for the veterinary profession to deal with." The report of the New York State board of health to the legislature of 1895 contains the following: "There is a complete unanimity of opinion now in the scientific world as to the communicability from man to man,and from animal to man, and man to animals. That milk and its products will convey it has been proved repeatedly. This has now passed beyond the experimental stage, and is no longer open to doubt. It has also been proved that lower animals fed with tuberculous meat become tuberculous as a result of such feeding." Such, then, is the common opinion to-day. Many of the statements are couched in language calculated to defy further investigation and to discourage even a doubt as to their correctness; however, we shall endeavor to show by the conditions as they exist between man and animals, and animals and man, that no stress of words, no amount of bigotry, no arbitrary proclamations unsupported, can hold the truth in bondage. If the State board of health believed its own teachings and was sincere, why did it inspect, tuberculin test, condemn, quarantine, and tag for slaughter various lots of cattle which, according to the board's *Reports*, were inimical to the public health and were prone to spread disease among other cattle, and after holding them in quarantine a considerable time pass a resolution and send out the following notice to the owners of said diseased cattle?

"You are herewith notified that the quarantine imposed upon your cattle by the inspectors of this board, in pursuance of orders from this board, and in conformity with the power granted by article 4 of chapter 661, laws of 1893, is relieved and raised, and the tags and other devices used to mark said animals may be removed by you." As well might our penitentiaries be thrown open and the murderers and convicts be told to go free, and that any striped clothing or other devices used to mark said criminals might be removed by them. The board of health of Syracuse, New York, has determined that hereafter all the herds whence the milk supply of the city is derived shall be kept under municipal supervision, and that all dairy animals shall be examined by a physician at least twice a year. A round aluminum tag is fastened to the ears of the healthy animals, and an oblong tag to those of the diseased ones. If physicians in State boards of health and in other positions are competent to handle animal diseases, then, to be consistent, we should have a corps of veterinary surgeons to guard the public health. Both are doctors. Could Miles do what Dewey did? Could Dewey win where Miles has won? Both are fighters. While I have the utmost respect for and confidence in the ability of the medical profession, I can but regret that its code of ethics allows its members to imperil its dignity by seeking positions and assuming rôles in which they are manifestly out of their proper sphere. To the honor of the profession be it said that its ablest members are not dissemblers, and that only its pygmies pose as veterinarians. But we have digressed from the subject of transmission. We have been told over and over again that "the slight difference between the bacillus of man and that of cattle is a temporary peculiarity, and is overcome when the conditions are favorable. . . . That all over the world tuberculosis in man and cattle coexists in the same locality; that among fish eaters and in countries having no cattle tuberculosis is practically unknown. That it prevails largely among beef eaters and cow-milk drinkers; that among our Indians, who eat diseased beef raw, fifty per cent. die of tuberculosis, while among the northern Indians, who never see beef, it is relatively unknown, goes to show that the conditions being favorable the infection passes readily from ox to man." Professor Law used this argument in an article published last month: "I deny that it is shown that the infection passes readily. Coincidence is the only thing established. Conditions that favor the spread of this disease from human to human also contribute to its dissemination from bovine to bovine." Rivers and railways often run side by side for the reason that Nature in such places favors both, and not because there is any relation between them, or that one is necessary to the other. Since we know the cause of tubercle, will any one have the temerity to assert that cattle must be in close proximity in order that infection may pass from man to man? Or, if there is a healthy herd of cattle on an island not inhabited by mankind, and we wish to spread tuberculosis among them, will it be argued that it is necessary to send a number of consumptive people there, as well as a few tuberculous cattle? If so, the answer is simple. The tubercle bacillus is not a parasite requiring an intermediary bearer. In the fish-eating frozen regions, where cattle are not kept, the bacillus meets obstacles fatal to it. If eating diseased meat raw is such a potent factor, why is it a fact that the carnivora rarely develop the disease? Again, beef is not so highly infecting. In many tuberculous animals the muscles or meat are not diseased. It is not necessary to speak of cooking as a safeguard at this time. This paper deals only with bacilli that are capable of infection, and not with those that have been destroyed, and are therefore harmless. Why hunt for a wild tribe who eat beef raw, when we have the better evidence of millions of our kind who drink milk and eat its products raw, and we do not find fifty per cent. of them dying annually from tuberculosis and all other diseases put together? And it has never been shown that human tuberculosis was the result of infection obtained from cattle, either by germs taken into the system by inhalation, or by the ingestion of the products of diseased animals. The cases reported and quoted by writers are not supported by evidence of such transmission, and as we proceed it becomes more apparent that evidence had to be manufactured, the natural output being wholly inadequate to the needs of the advocates of that theory. About twenty years ago I wrote articles on bovine tuberculosis for newspapers and live-stock journals, and called attention to the possibility of its transmission to the human. That the disease rapidly spread among cattle by infection was pointed out. The advice given then is equally applicable now—viz., that cattle owners should have their herds inspected; that the diseased ones should be isolated; those that were physically bad should be killed. Disinfection was advised for stables, etc. In 1885, after killing two thousand dollars' worth of cattle in another State with the owner's consent, there being no law to compel slaughter in any State at that time, I gave the *Albany Argus* a column article on Animal Diseases and their Relation to the Public Health, and on the subject of tuberculosis, said: "How much of the prevalence of human tuberculosis may be due to milk and beef from tuberculous cattle is a question yet to be determined, and is a serious one indeed." Therefore, the position I now take after having warned the public many years ago, and frequently since, to use all possible care to prevent the transmission of tuberculosis from cattle to man, is arrived at from a vast experience with the disease in cattle in England, Canada, and the Eastern and Middle States, and from a study of the people most exposed to any infection that might be possible from such animals.

Bacilli in Human and Bovine.—Charles Darwin says that man has given rise to many races, some of which are so different that they have often been ranked by naturalists as distinct species. The races differ in constitution, in acclimatization, and in liability to certain diseases. On these same principles micro-organisms are very much modified by the conditions surrounding them. Sternberg, in his *Manual of Bacteriology,* states that the tubercle bacillus is a strict parasite, and its biological characters are such that it could sacrcely find natural conditions outside of the bodies of living animals favorable for its multiplication. It therefore does not grow as a saprophyte under ordinary circumstances. But it has been noted by Nocard and Roux that when it has been cultivated for a time in artificial media containing glycerin it may grow in a plain bouillon of veal or chicken, in which media it fails to develop when introduced *directly* from a culture originating from the body of an infected animal. The human is omnivorous, the bovine is herbivorous. The normal human pulse is about 72, that of the ox 40 to 45. The normal temperature of the human is 98.6° F., that of cattle from 100° to 100.5° F. Thus the normal temperature of the ox is equal to quite a fever in the human. I am of the opinion that there is something in the human body antagonistic to the favorable development of the tubercle bacillus of the bovine, and there is in the body of the bovine a check to the colonization of these animals by the bacilli from the human species. Hordes of Hottentots transferred to the polar regions would rapidly perish, yet the Eskimo thrives there. Sternberg says: "A certain species of bacilli may be pathogenic for one species and not for another. Thus the anthrax bacillus, which is fatal to cattle, sheep, rabbits, guinea-pigs, and mice, does not kill white rats. The bacillus of mouse septicæmia kills house mice, but field mice are fully immune from its pathogenic effects. On the other hand, the bacillus of glanders is fatal to field mice, but not to house mice." Here is a distinction as finely drawn as that which I have alleged as existing between man and the ox. I believe that the tubercle parasite of man has by its long existence in that host acquired, as it were, individual characteristics which unfit it for life in the ox, and that the "micro-organism" of tubercle, which for centuries has had its habitation in cattle, has become practically specific to that class of animals. I am therefore persuaded that if the environment be changed in either direction the pathogenic power will be lost. I have read of cases of accidental inoculation of the human from the bovine, and if they have occurred they must be very rare, inasmuch as none have come under the writer's observation, and probably no one has had greater experience with tuberculosis in cattle. I am positive that many supposed cases have been incorrectly interpreted. Suppose one member of a family on a farm develops tuberculosis, and there are one or twenty tuberculous cows on said farm, it does not prove that the individual obtained the infection from the bovine. It is quite probable that he has been exposed to infection from human tuberculosis hundreds of times. Many reported cases hang on just such vague evidence as this. If a man walks into a bank, and while there is found to have twenty dollars in his pockets, is it *prima facie* evidence that he has become infected with the germs of wealth of that institution? Or, is it not possible that he was suffering from monetary engorgement when he entered that hotbed of filthy lucre? It must be proved beyond peradventure that he was penniless when he entered the building if we are to blame the bank for the condition of his pockets. Just as positively must we know that infection passes to the human adult or child from cow's milk or its products, or from beef, or through ingestion in other ways, or by inhalation of bacilli from the bovine, and that they alone establish the disease ere we can truthfully say there is such transmission. How may we know that a human being is tuberculous when no germs can be obtained from the subject, and no marked symptoms are observed? If an adult or child has tuberculosis, and it is proved that such patient has partaken of milk for any length of time from a cow known to be tuberculous, it is by no means certain that infection came from the cow unless there is proof that it did *not* come from the human, and that it did not exist prior to his ingestion of the milk. Let us take cognizance of the difficulty of establishing such a fact. Humanity wanders incessantly. The germs of human tuberculosis are wafted on the winds, are carried by the waters, may be brought home in food or clothing, may be inhaled at church, theatre, or hotel, in motor or parlor cars. They do not stand out in large black masses, like the rocks the mariner is ever alert to avoid, but without our ken, noiseless, imperceptible, and intangible they surround and invade us. They do not sting when they capture a victim; then how can we know the time, the place, and the source of infection? Even the milk from that tuberculous cow just mentioned may be further contaminated by bacilli from a human being before it reaches the consumer, and the bacilli from the human may establish disease, while the bacilli from the cow prove inert. Consumption in people is so common that physicians have unlimited facilities to study its ætiology. For instance, in New York State the deaths from this disease for eight years from 1888 to 1895 were 104,804, an average of 13,100 a year, and it averaged about eleven per cent. of all deaths. The annual report of our State board of health for 1896 says: "Tuberculosis in some form or other accounts for a very large percentage of the deaths in the State, and when it is known that there is at the present time a large amount of meat consumed from tuberculous cattle, and that milk from such cattle enters into the dietary of the people, and that there is danger when the bacillus is ingested, it is believed to be a most potent source of infection, especially in children." Note the expression, *believed to be,* and if we read from scores of writers on this subject, we shall find that when they come to this point they all hide behind just such terms. Where are their facts, and why do they not give us some positive statements, with convincing illustrations of the methods by which they proved to themselves that such was the case? Too long have writers worn the thinking caps of others, too confidingly have they accepted the statements of supposed authorities. There has been too much heredity in ideas and quotations. Practically all the people of the State eat the products of cattle all their lives, and tuberculosis in cattle is well distributed throughout the State. Now, then, if the disease passes readily to man, even laymen should be able to note the fact where large numbers of cattle are infected. But they, and their physicians, and their veterinarians have merely presumed, imagined, believed, supposed, and concluded that such "might be the case." One thing is well known, viz., that 13,000 human consumptives give off enough infective material annually to account for all the human tuberculosis in the State without the aid of a single bovine.

(*To be concluded.*)

THE THERAPEUTIC VALUE OF OXYGEN.*

By W. L. CONKLIN, M. D.,
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Of the many problems which confront the physician the one which requires for its solution the determination of the therapeutic value of a drug or remedial agent is by no means the most simple. Indeed, it is a problem so complex and difficult, when viewed from the physiological as well as the clinical standpoint, that we are sometimes tempted to reject a remedy at once rather than undertake to satisfy ourselves as to its real value. Then, too, the number of new remedies to which our attention is called is so great as to make a thorough clinical test of each an impossibility, even if such a test were desirable. There can be no doubt, however, that among the many worthless or unnecessary drugs and remedial agents presented to us there are others of great value. To deny this fact is to deny that any real progress is being made in therapeutics, and this no one of us would be willing to do. The process of sifting out the good from the worthless is constantly going on, but physicians are, as a class, conservative, and slow to place a new candidate for favor on the list of remedies of undisputed value. Opium, quinine, and calomel are there, and seem likely to remain for all time, but there are many other remedies, the therapeutic value of which is still the subject of discussion, which may, in time, come to be regarded quite as worthy as these of a place in the list. We can not afford to discard or set aside without sufficient cause any weapon which promises to be of service in our combat with disease. Neither can we afford to wage a passive warfare. It is an encouraging evidence of progress in our knowledge of therapeutics that less is heard than in former years about the "expectant plan" of treatment. The term implies a graceful recognition of the curative powers of Nature, but does not do full justice to the physician, if it means that with his own experience and that of others to draw from he can find nothing with which to aid Nature in her work. We never hear of the "expectant plan" of dealing with a mad dog, or of the "expectant plan" of saving a drowning child, and it is to be hoped that the time will come when this term shall no longer be found in our medical text-books.

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* Read before the Rochester Pathological Society, May 18, 1899.

In our efforts to combat disease, however, we often find our therapeutic resources inadequate, or, to put it in simpler language, our patients don't all get well. No doubt this will from the nature of things continue to be the case, but the more scientific our methods, and the more perfect the adaptation of the remedy to the disease, the smaller will be the proportion of failures. Shall we not then seek from time to time to add to our list of remedies and so better our equipment for successful work?

Two considerations have led me to select as my subject The Therapeutic Value of Oxygen: First, a firm conviction that oxygen administered by inhalation is worthy of a place among remedial agents of positive value, and, second, an impression that many physicians hold an opposite view, regarding it of doubtful or very limited utility, and rarely if ever make use of it in their practice.

Hare says: "With regard to the usefulness of oxygen inhalations, there has been and is much dispute among physiologists and clinicians alike. One party denies the possibility of adding to the oxygen of the blood by any such means. Among these are Ewald and Peabody. A second party maintains the exact opposite, its members differing only in the degree of value which they attach to the inhalations. Oune, Hayem, Albrecht, and Dujardin-Beaumetz take this view of the subject. A third party preserves a cautious neutrality, not denying the possibility of usefulness, but holding it to be very doubtful or slight. Nothnagel and Oertel are prominent members of this neutral party. While this difference of opinion obtains regarding the therapeutic value of oxygen inhalations, there can be no diversity of opinion among physicians as to the therapeutic value of pure air and plenty of it. And no doubt it would be hard to improve on Nature's combination of twenty-one parts of oxygen and seventy-nine of nitrogen for the ordinary requirements of life, or for our patients even, providing we can get them into the pure air and then get them to breathe in such a way as to avail themselves of the oxygen which it contains. But there are many pathological conditions in which, for one reason or another, it is impossible to get enough atmospheric air into the lungs to supply the tissues with the oxygen which they need. It is for the relief of these conditions that the inhalation of oxygen, properly diluted, is indicated, and, in my opinion, of very great value.

One of the press dispatches regarding Rudyard Kipling's condition stated that a cylinder of oxygen had been carried to his room, and added that this was regarded as heroic treatment and a "last resort," and it is undoubtedly true that in the minds of many of the laity and some physicians oxygen is limited to this narrow sphere of usefulness. I say narrow, for "last resorts" are usually just what the term implies, and I feel sure that while sometimes of value in these desperate conditions, its utility is by no means limited to them. It is often thought of and sent for in haste when cyanosis is well marked or cardiac failure impending; but if of any value in these urgent conditions, would it not have been of far greater value by preventing the development of these same conditions if resorted to earlier in the course of the disease? It must necessarily often fail to do more than give temporary relief when its use is delayed, and it may be that failure at this time has led to an underestimate by some of its real therapeutic value.

It is true that but little is said in most of our standard text-books in regard to oxygen. It is true, also, that certain laws which govern the diffusion and absorption of gases are sometimes looked upon as interfering with the utilization of oxygen as a therapeutic agent. I hope to show that this is not, in reality, the case, and I feel confident that while little prominence is given to oxygen in most of our text-books, there is no lack of clinical evidence to prove its remedial value. Permit me first to review briefly some of the phenomena of respiration.

Without going into particulars regarding tidal, complemental, reserve and residual air, let us follow a hundred volumes of atmospheric air as it enters the lungs, noting the changes which occur in its composition and in that of the blood with which it comes into contact. Of the one hundred volumes there are approximately seventy-nine of nitrogen and twenty-one of oxygen, with a trace of carbon dioxide and watery vapor. When expired the air has risen in temperature to about 98.5° F., there has been an increase in the amount of watery vapor, traces of organic matter and free ammonia are present, and 4.8 volumes of oxygen have been abstracted, while 4.3 volumes of carbon dioxide have been added.

The interchange of gases which takes place between the inspired air and the venous blood is of vital importance. Dalton says: "The most constant and striking phenomenon presented by living organisms, both animal and vegetable, is the absorption of oxygen. A supply of this substance, either in the gaseous form as a constituent part of the atmospheric air, or dissolved in water or other liquids, is indispensably requisite for the maintenance of life and the manifestations of vital phenomena."

Hare says: "Its proper supply is an indispensable factor in function and in nutrition, and although its action is apparently destructive, it is the chief of constructive agents."

The importance to man of a full supply of oxygen is shown by the fact that if its proportion in the air breathed is reduced to ten per cent. asphyxia results almost immediately.

The recent investigations of Oehrwall would seem to show that oxygen has a peculiar vitalizing effect upon the heart muscles. He finds that "a volume of blood sufficient to fill the frog's ventricle will maintain contractions for hours, provided the heart is surrounded with an atmosphere of oxygen. The heart is brought to a standstill by lack of oxygen and may be made to beat again, even after an arrest of twenty minutes, by giving it a fresh supply. The heart fails in oxygen hunger probably because the chemical process by which the stimulus to contraction is called forth no longer takes place."

It is an interesting and important fact that the law of "partial pressure" which, as a rule, governs the absorption of gas by a liquid, does not apply to the absorption of oxygen by the blood except so far as the fractional amount found in the plasma is concerned. This law is briefly stated as follows: "Other things being equal, the amount of gas which a liquid absorbs depends upon the proportion of gas—the so-called partial pressure of the gas—in the atmosphere to which the liquid is subjected. Conversely, if a liquid containing a gas in solution be exposed to an atmosphere containing less of the gas, the gas will be given up to the atmosphere until its amount in the liquid and in the atmosphere becomes equal. This is called the condition of equal tension."

The rapid escape of gas when the cork is removed from a bottle of carbonated water is an illustration of this law. The water is charged with carbon dioxide, while the atmosphere contains only one volume in two thousand, and the gas escapes until a condition of "equal tension" results.

Nearly all the oxygen of the blood is found in loose chemical combination with the hæmoglobin, and this combination is independent of the law of partial pressure. Pflüger found 15.6 per cent. by volume of oxygen in the entire blood of the dog, while the serum alone contained only 0.2 per cent.

The oxygen tension of the venous blood, then, depending, as it does, upon the amount of this gas which is in solution in the plasma, is low, and this condition favors the transfer of oxygen from the alveolar air to the venous blood, where it enters, for the most part, into loose chemical combination with the hæmoglobin. Recent experiments have seemed to prove, however, that the oxygen tension of arterial blood, as it leaves the lungs, exceeds that of the air in the alveoli, and it has been thought by some physiologists that the lungs possess the power of absorbing oxygen. Haldane and Smith (*Journal of Physiology*) find proof that this theory is correct in the fact that "when the proportion of oxygen in the alveolar air is diminished the relative excess of the oxygen tension in the arterial blood over the alveolar oxygen tension is markedly increased." The lowering of arterial oxygen tension in diseased conditions, especially those affecting the lungs, is thought by them to afford further proof in favor of the absorption theory.

The affinity of hæmoglobin for oxygen is so great that one gramme in solution will absorb 1.59 cubic centimetres of oxygen. This is equal to about ten volumes of oxygen to a hundred of venous blood. The capacity of hæmoglobin as an oxygen carrier and the demand of the tissues for this gas is shown by the fact that on the average, in the healthy adult, about sixteen cubic centimetres are removed from the air and absorbed by the blood with each respiration. This would amount to at least a hundred and twenty-five gallons in twenty-four hours.

The venous blood comes to the lungs loaded with carbon dioxide. As this gas is largely in solution in the plasma it passes through the alveolar wall by a process of diffusion and in accordance with the law of partial pressure, the carbon dioxide tension of alveolar air being less than that of venous blood. About eight ounces of carbon are in this way removed from the blood in twenty-four hours.

If, as Dalton says, oxygen "is indispensably requisite for the maintenance of life," if the reduction of its proportion in the atmosphere to one half the normal amount will produce almost immediate asphyxia, and if the demand of the tissues for it is so great that in health they require at least a hundred and twenty-five gallons in twenty-four hours, then it is evident that if, for any reason, the supply is markedly diminished, or the blood so changed in composition that it is no longer a good oxygen carrier, there must result a condition of oxygen starvation quite as menacing to life as is the starvation resulting from an insufficient supply of food.

It has been well said that "to feed a hypertrophic subject therapeutically by way of the alimentary canal alone is impossible. Attention to respiratory diet is equally necessary."

This diminished supply must result from any condition which interferes with the function of respiration, either by obstruction to the free ingress of air, or by diminishing the total diffusion area of the alveoli. Such conditions are present, *e. g.*, in the various forms of pneumonia, and in asthma, pulmonary tuberculosis, and membranous laryngitis.

The blood changes which take place in chlorosis, progressive pernicious anæmia, and in all the secondary anæmias, result in a diminution in the number of red blood-corpuscles and in the amount of oxygen carried by the blood to the tissues. Indeed, "oxygen hunger" exists, in greater or less degree, whenever dyspnœa is present, and Pepper enumerates fifty-five distinct morbid conditions in which this symptom is prominent.

If, when the supply of oxygen obtained from the atmosphere is insufficient, this insufficient supply can be supplemented by inhalation of the gas, properly diluted, much may be done to relieve the distress resulting from dyspnœa and to bring about a return to perfect health.

This query might be answered in the affirmative at once if the oxygen of the blood were in solution in the plasma and so subject to the law of partial pressure. An increase in the proportion of oxygen in the air inhaled would necessarily be followed by an increase in the amount of oxygen taken up by the plasma. But, as we have seen, this law does not apply to the absorption of oxygen by the blood, and physiologists claim that the amount of oxygen entering into combination with the hæmoglobin is not increased to any extent by breathing the pure gas. This may be true when, as in perfect health, the hæmoglobin is already saturated with oxygen. It may be true also in diseased conditions in which the blood is deficient in oxygen, for pure oxygen is an irritant to the lungs, and, by reason of its irritating properties, likely to interfere with the delicate physiological process by which diffusion is carried on.

But if the hæmoglobin is deficient in oxygen and the resulting oxygen hunger of the tissues well marked, and if oxygen is administered properly diluted with a non-irritating gas, it is undoubtedly taken up by the hæmoglobin, and in turn by the tissues, with resulting relief to the distressing and threatening symptoms not only, but with positive benefit to the patient as well.

Kirkes says: "If blood containing little or no oxygen be exposed to a succession of atmospheres containing more and more of that gas, absorption is at first very great, but soon becomes relatively very small, not being therefore regularly in proportion to the increased amount or tension of the oxygen of the atmospheres."

This fact in physiology has an important bearing upon the subject. It would seem to prove conclusively that while increase of tension or partial pressure is not followed by an increase in the amount of oxygen absorbed by the blood, a diminution in the amount of oxygen in the blood and tissues will be followed by an increased absorption, providing an increased supply is furnished in such a form that it can be readily taken up by the hæmoglobin. The law of physics which controls the absorption of a gas by a liquid is, then, in perfect accord with the observations of physiologists and with the clinical fact that, other things being equal, the greater the dyspnœa, the more pronounced the deficiency of oxygen in blood and tissues, the more marked and positive is the benefit resulting from the inhalation of oxygen.

I will not weary you with a detailed account of my own experience with oxygen. I have used it in a variety of pathological conditions accompanied by dyspnœa, with uniform relief so far as that distressing symptom was concerned, and with marked benefit to the patient as well, in nearly every case. The cases which I remember as having shown the most pronounced improvement under its use include one of broncho-pneumonia in an infant, one of double lobar pneumonia in a child five years old, one in the advanced stage of chronic valvular disease, and one of neurasthenia with persistent anæmia. The case of broncho-pneumonia was markedly cyanotic and in a semicomatose condition when the administration of oxygen was begun. The case of double pneumonia was a desperate one, but finally made a good recovery. The patient with advanced valvular trouble suffered from orthopnœa and great restlessness for weeks, but would often go to sleep sitting in her chair while inhaling the oxygen. The relief of dyspnœa in this case was very pronounced. The anæmic patient was greatly benefited by oxygen inhalations combined with iron, though the iron alone had seemed to afford but little relief.

I have always used the mixture prepared by the Walton Oxygen Works and kept constantly in stock by the Paine Drug Company. This is made according to the formula of the London Oxygen Hospital and consists of one part of oxygen and two of nitrogen nonoxide. The latter gas has anæsthetic properties which make it of value, and the mixture is not irritating to the lung tissue, as pure oxygen is said to be.

In looking over current medical literature I find many cases reported in which the results obtained from oxygen inhalations are so evidently favorable as to furnish, it seems to me, strong clinical proof of its therapeutic value.

Believing, as I do, that there are no facts in physiology or in physiological chemistry which really discredit this clinical evidence, or prove that the use of oxygen is unscientific, I feel confident that it will steadily grow in favor and come in time to be considered of definite and positive therapeutic value by all who will give it a fair trial.

232 South Avenue.

CEREBRAL AND MENINGEAL SYPHILIS TREATED BY INTRAMUSCULAR INJECTIONS OF INSOLUBLE SALTS OF MERCURY.

SOME POINTS IN TECHNIQUE.

By J. COPLIN STINSON, M.D.,
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The following case of brain syphilis is reported as illustrating the immense value of intramuscular injections of insoluble salts of mercury:

Case I.—M. G., aged fifty years, contracted syphilis in 1876. For a month after infection he took medicine from some friends. Then he consulted Dr. Van Vlach, who prescribed medicines that were taken three times a day continuously for six months. In June, 1877, he went to Walton Springs in San Benito County, California, where he remained three months. He became fat, strong, and healthy again after this course of treatment. He has always taken good care of himself and he remained well up to the spring of 1897, when he gradually began to lose his health. He complained of vertigo, and sometimes of nausea and vomiting; later on of headaches, which gradually became severe and persistent. The pain was most severe at the front and top of the head, which felt as though some one was beating it with a hammer. He also had pain in the temporal and frontal regions. The muscles of the back of the neck were painful, felt twisted into a knot, and it hurt him to attempt to extend his head. He has been so miserable that he could not work for this last couple of years. From the beginning of April, 1899, his symptoms were much worse, nausea, vomiting (he would eject milk and limewater), and violent headaches nearly all the time. He would have deafness and ringing in his ears before the aching commenced. His skull was tender to the touch; sight poor, double vision, read a paper with much difficulty; no position would relieve the pain in the head; the eyes had a peculiar vacant expression; several times he had a numb feeling in his arms, as though paralysis was pending. It was with much difficulty he could walk across a room—frequently he would stagger on account of the unsteadiness of his limbs. For these reasons he could not follow his trade, that of a house painter. For two weeks he could not sleep night or day on account of the severity of the pains in his head. In the latter part of April, 1899, he was found several times wandering around the halls of his lodging house in an exhausted condition, undressed, and acting as though he had lost his reason. On April 28th he was given a large sleeping powder, and about an hour after he was found wandering in the halls. He was taken to his room and while he rested on the edge of his bed he fell over unconscious. A physician was called in, examined him, and stated that he would probably die before morning. He remained unconscious fourteen hours. I saw him on April 29, 1899. He was in a weak, exhausted condition, sight dim, diplopia; felt weak in the legs; patellar tendon reflexes were normal; he could not walk a straight line nor stand steadily with the eyelids closed. He complained of pain, etc., in his head, as already described. He weighed less than a hundred pounds, whereas his weight in robust health had been a hundred and forty-eight pounds. I gave him an intramuscular injection of the salicylate of mercury, two grains, suspended in about half a drachm of sterilized almond oil. The injection was made with a needle two inches long and introduced into the muscular tissues of the buttock about a quarter of an inch above the junction of middle and inner thirds of a line extending from the top of the great trochanter of the femur to the cleft of the buttock, meeting the latter at right angles. I ordered some powders to produce sleep and tonic pills to overcome his anæmia. The injection acted like magic; the pains in his head and neck rapidly disappeared, and inside of four days the soreness and tenderness of his skull had also gone. Within a week he went to work at painting for a day and a half, and within three weeks he could work steadily, although it exhausted him. On May 5th I gave him the second injection into the other buttock. The dizziness disappeared, and the stomach was normal after this injection. By June 20th he had been given nine injections. After the fourth injection he weighed a hundred and twenty-five pounds. By June 12th he could walk a straight line fairly well, and work on high buildings. By the latter part of June his sight was better than it had been for ten years. In the first week of July he weighed a hundred and twenty-nine pounds, the weakness in his knees had nearly all disappeared, and he could work all day with only slight exhaustion. As a rule he did not have any severe pains from the injections. The day following and for a few succeeding days he would have some pains in the buttock, etc., like mild rheumatism. At the sixth injection I used one grain of subchloride of mercury. It was very painful the following day and the pain continued for about two weeks. After the first injection of the salicylate the bowels moved twelve times in forty-eight hours, but during the whole course of treatment they moved on an average about twice a day. After the fifth injection the gums became slightly tender. After using the calomel they became quite tender and sore. After the ninth injection several teeth became loose and the submaxillary glands perceptibly swollen. With mouth washes the swelling subsided within a week, and by July 14th his mouth and teeth felt about all right. On June 24th, on account of the salivation, etc., I discontinued the injections and ordered ten minims of a saturated solution of iodide of potassium three times a day in soda water, increasing two drops daily. When he got up to twenty-two minims for a dose he began to have coryza and a few other symptoms of the iodism, and was put back to ten minims for a dose, which he continued to take till the next series of injections. His general health and condition are now good, and his improvement is such that he will soon regain his former good health.

Points in Technique, etc.—In tertiary syphilis, as in other stages, a thorough course of treatment should be followed if one wishes to cure. Four series of injections should be given each year for three years or longer. If the salicylate of mercury is used and two grains can be tolerated at each injection, two injections should be given a week, and this treatment continued for about five weeks—*i. e.,* till nine or ten injections are given. Forty per cent. of patients take two grains without any inconvenience. Forty per cent. more can not stand two grains, as it produces too many movements of the bowels, quite painful colic, sometimes considerable pain in and around the region of the buttock, and exceptionally a few bloody stools. These patients can be given with little discomfort about a grain and a third of the salicylate at an injection, which is therefore given three times a week; while the remaining, about twenty per cent.—hyperæsthetic individuals—will not take intramuscular injections of two grains, as they cause pains and lameness, on account of which they will not submit to them. Between the series of injections ten minims of saturated solution of iodide of potassium in water should be given three times daily. If there are urgent symptoms, increase two minims daily until coryza and a few other symptoms of iodism appear, when the original dose may be resumed.

Mercury is the curative drug for syphilis, while the iodide is used as a prophylactic against syphilitic endarteritis.

The technique of the injections is simple and safe. 1. Sterilize by boiling four ounces of oil of sweet almonds, which is kept in a sealed sterilized bottle. 2. Use pure salicylate of mercury that has been put up in a sealed half-ounce bottle and prepared by some reliable firm — *e. g.*, Merck. 3. Weigh out accurately the amount to be used for one injection on a clean paper. 4. Put the powder in an aseptic small mortar and pour in about half a drachm of the sterilized oil; triturate well. 5. Place the patient flat on his stomach, legs extended; disinfect area of injection with 1-to-500 bichloride-of-mercury solution. 6. Sterilize the needle (two inches long) by syringing with alcohol and bichloride solutions or by boiling or some other method. If bichloride is used, wipe the needle off at once with dry cotton, which removes the bichloride, prevents tarnishing, and, in fact, makes the surface of the needle shine better than before. The syringe I employ is one used ordinarily for aspirating (five inches and a quarter long, three quarters of an inch wide), with a thumb and two finger rings at the end of the piston, which thus readily forces the fluid along the needle into the tissues. 7. Draw the fluid into the syringe, stirring while doing so with the end of the syringe; fit or screw on the needle and force the fluid along the needle till it appears at the point, which is wiped dry with cotton. 8. Plunge the needle vertically into the tissues the full two inches of the needle, introducing the point about a quarter to half an inch above the junction of the inner and middle thirds of a line carried from the upper border of the great trochanter to meet the cleft of the buttock at right angles. 9. Inject the oil slowly, and when the syringe is empty withdraw the needle slowly. This prevents any of the fluid being deposited in the fatty tissues, which is a source of some pain. Dust on a little aristol or other mild antiseptic and pour on a few drops of collodion, which is allowed to dry. I have often used and have frequently seen intramuscular injections of the salicylate of mercury used, in the treatment of syphilis, and have yet to see the first case wherein an abscess formed. Forty per cent. with two grains and forty per cent. with a grain and a third have little or no pain with or after injection, and no rest is required. In all cases the absorption of mercury was definite in amount and its action did not vary much; as a rule, there were no pathological changes produced in the structures injected, and no sudden or dangerous poisoning. Absorption of mercury begins very soon after the injection, as shown by the symptoms and by testing the urine for mercury, which does not disappear from this excretion for four to seven days if two grains have been injected. Subsequent doses are repeated about twice a week so as to obtain a thorough systemic effect. By this means mercury is continuously in the system.

By using injections the functions of the digestive tract, the skin and liver, etc., are not interfered with. The doses are certain of absorption and can be readily regulated according to the susceptibility of the individual; with aseptic and antiseptic precautions the treatment is perfectly safe and the resulting improvement is certain and rapid. Under ordinary conditions the practice is not necessary, and should be condemned, of adding morphine or cocaine or both to an injection. In cases of syphilis with dyspnœa cocaine can be added with advantage, as it rapidly overcomes this distressed condition. I know of a case with marked dyspnœa (cardiac) (in the practice of my colleague Dr. G. Gross), in which cocaine was added to an injection. The dyspnœa ceased immediately, and it was not necessary to repeat the cocaine subsequently.

It is of vast importance before beginning intramuscular injections to ascertain that the teeth are in excellent condition and that the kidneys are not diseased. Patients with nephritis should not receive large doses of mercury by injection, as even small doses are not well tolerated. In all cases the urine should be examined once in a while during the course of treatment.

326 Kearny Street.

A CASE OF COLOCYNTH POISONING.

By WILLIAM ELLERY JENNINGS, M. D.,
BROOKLYN.

The patient, Mrs. B., aged twenty-nine years, native born, mother of two children, first came under our care on May 28, 1899.

She gave a history of having swallowed, at 8 A. M. on the same day, an improvised tincture of colocynth, prepared by macerating an entire colocynth "apple" in four ounces of gin for twelve hours, with a view to bringing on an abortion.

Symptoms appeared within an hour after the exhibition of the drug in the form of faintness, giddiness, vomiting, and retching, accompanied by considerable pain in the epigastric region. About 11 A. M. patient had a large watery, blood-tinged stool, and shortly afterward a convulsion.

I was called to see the case at 2 P. M. Examination showed a normal temperature; coated tongue; pulse of 62; weak and irregular; pulse-respiration ratio much disturbed, and diminished intensity of the first sound of the heart.

Subjectively there was a feeling of extreme prostration, distressing thirst, and severe epigastric pain. Vomiting, preceded and followed by retching, was occurring at about ten-minute intervals. Toward evening a mild delirium set in, and patient was delirious at intervals throughout the night.

During the first twenty-four hours emesis occurred some twenty or thirty times (estimated), with two convulsions and four blood-stained stools.

The following day there were ten evacuations of the bowels, with a continuance of epigastric pain, pulse of 69, and some improvement in gastric irritability, emesis occurring but three times. Prostration still marked.

On the third day there were fourteen stools, and the pulse was 78, with a slight improvement in the general condition. Patient had practically no epigastric pain, but complained for the first time of abdominal pain.

Abdomen tender on pressure, the tenderness being more pronounced on the right than on the left side. From this time on a fair amount of nourishment was retained in the form of broths and peptonized milk, together with panopeptone in tablespoonful doses four times daily.

On the fourth and fifth days there were eleven and nine movements of the bowels respectively, with a pulse ranging from 82 to 85, and a pronounced improvement in the general condition. On the sixth day there were but two evacuations, a pulse of 76, entire freedom from pain, and recovery from this time on was speedy.

The dejecta were tinged with blood up to the fifth day, and there was no rise of temperature at any time during the illness.

The medication consisted of morphine sulphate, a quarter of a grain, and atropine sulphate, one one-hundred-and-fiftieth of a grain, given hypodermically twice on the first and second days, and once on the third day, together with a mixture containing bismuth subnitrate, cocaine hydrochloride and limewater, given in drachm doses every four hours for the first three days. After the third day I relied solely on bismuth subnitrate in fifteen-grain doses every three hours.

Fomentations were applied freely to the epigastrium and abdomen, and apparently gave relief.

In referring to the toxicology of colocynth, Christison, quoted by Biddle, cites a case in which a drachm and a half of the dry powder proved fatal to a man, and Husemann, quoted by the same authority, mentions one instance in which two thirds of a drachm resulted fatally to a woman, and another of recovery after swallowing three drachms.

With regard to the probable amount of colocynth taken in this case, I have found upon weighing several specimens that the average weight of a single dried fruit is from three to four drachms, depending upon the number of contained seeds, and, as the drug yields its virtues to both alcohol and water, gin was no doubt a most suitable menstruum.

The effect upon the system was the production of an acute gastro-enteritis, accompanied certainly by cardiac depression, and apparently by an effect more or less pronounced on the central nervous system.

As an abortifacient, the colocynth proved a complete failure.

Therapeutical Notes.

For Nephritis.—The *Gazzetta degli ospedali e delle cliniche* for August 1st says that Professor Baccelli, when it is desired to induce energetic intestinal derivation in nephritis, recommends the following formula:

℞ Sulphate of sodium	600 grains;
Nitrate of sodium	300 "
Scammony	90 "

M. Divide into forty powders. One to be taken every half hour.

Sea Water as a Remedy for Seasickness.—Dr. L. C. Washburn (Merck's *Archives*, August) says that in addition to a light diet and a mild purge before entering on a voyage, and loose clothing and a recumbent posture in the open air on board ship, the remedy that he has never known to fail is to drink a pint of sea water. This generally produces vomiting, and often acts as a saline aperient, giving prompt relief with no unpleasant sequence.

A Teething Syrup.—The *Revue de médecine* for July 26th quotes the following from the *Gazette des hôpitaux* of unnamed date:

℞ Citric acid	7½ grains;
Distilled water	7½ "
Hydrochloride of cocaine	1½ grain;
Syrup	2½ drachms;
Syrup of saffron	2½ "
Tincture of vanilla	12 drops.

M.

To be rubbed on the gums.

Trinitrine for Abdominal Pulsations.—The *Gazette hebdomadaire de médecine et de chirurgie* for August 6th, citing the *Semaine médicale*, says that in the forcible abdominal pulsations coming from the aorta and causing a very distressing sensation, common in nervous subjects and hysteric and neurasthenic women, Sir Willoughby Wade finds the best remedy to be trinitrine administered at bedtime in a dose of three decimilligrammes (about one two-hundredth of a grain).

A Mixture for Preventing Abortion.—Bossi, of Genoa, recommends the following mixture:

℞ Fluid extract of hydrastis, Fluid extract of hamamelis, Fluid extract of viburnum prunifolium, Tincture of piscidia,	each, 10 parts;
Laudanum	2 "

M. S.: Ninety drops, in half a glass of water, three times a day.

An Effervescent Preparation of Quinine.—The *Centralblatt für die gesammte Therapie* for August credits the following formula to the *Annales de médecine et de chirurgie:*

℞ Quinine sulphate	4 parts;
Citric acid	10 "
Syrup, Syrup of orange peel,	each 10 "
Distilled water	10 to 20 "

M. S.: Ten drops to be taken in two ounces of water in which thirty grains of sodium bicarbonate have been dissolved. The bitter taste of the quinine is said to be overcome.

A Saponaceous Dentifrice for the Prevention of Mercurial Stomatitis.—Lanz, cited in the *Presse médicale* for July 22d, recommends the following:

℞ Potassium chlorate	300 grains;
Medicinal soap	150 "
Calcium carbonate (chalk?)	300 "
Oil of peppermint	15 drops;
Oil of cloves	4 "
Glycerin	a sufficiency.

M. Make into a paste.

Besides the use of this dentifrice, the mouth should be rinsed frequently with some antiseptic solution.

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SANARELLI'S YELLOW-FEVER BACILLUS.

Recently two notable American contributions have been made to the literature of the controversy that has arisen as to whether or not Professor Sanarelli is correct in concluding that his *Bacillus icteroides* is the cause of yellow fever. One of them, by the surgeon-general of the army, appeared in the *Medical News* for August 19th; the other is the official abstract of the report of a commission of the Marine-Hospital Service which we published last week. The report was dated July 10th, and of course was prepared before Surgeon-General Sternberg's article came out. The commission consisted of Surgeon Eugene Wasdin and Passed Assistant Surgeon H. D. Geddings, and their investigations were conducted mainly in Havana. Their report, it will be remembered, favors Professor Sanarelli's main contention, although it tends to disprove his theory of the cause of the "secondary paroxysm" of the disease. It traverses the idea, imputed to General Sternberg, that the germ of yellow fever is to be looked for in the alimentary canal; but General Sternberg declares, in the article referred to, that such imputation is erroneous, and adds that he has previously repudiated the notion attributed to him.

General Sternberg's article foreshadows the report of Dr. Reed and Dr. Carroll, whose investigations have been conducted in the laboratory of the Army Medical Museum. The surgeon-general sets forth that Reed and Carroll's experiments do not show that Sanarelli's *Bacillus icteroides* is the cause of yellow fever, but, on the other hand, he admits that Sanarelli's observations do not show that the bacillus X of Sternberg is the germ of the disease, and he declares most unequivocally that so soon as he can look upon Sanarelli's contention as proved he will frankly acknowledge the fact and hasten to do honor to the Italian investigator. "Truth is mighty," he says, "and no doubt in the end will prevail." Both documents are, indeed, pervaded by evidence of the sole purpose of their authors having been to arrive at the truth, and they are singularly free from tokens of prejudice or any disposition to twist facts. Of course, one or the other conclusion must be wrong; either Sanarelli's bacillus is the cause of yellow fever or it is not. The fact that General Sternberg still holds to an opinion absolutely the reverse of that arrived at by the Marine-Hospital Service's commission is, we presume, to be imputed to the difficulties and uncertainties still incident to investigations of the kind now under consideration, but it is not easy to account for the diversity of the results observed by the two investigating bodies after feeding pigs with the Sanarelli organism—the surgeon-general of the army has found that pigs so fed fall victims to hog cholera, but the Marine-Hospital Service's commission finds the Sanarelli bacillus innocuous to pigs fed with it. Any attempt to account for this diversity of experience would be pure speculation, and from that we must desist; the matter will be cleared up sometime. Meanwhile we may take heart from the Marine-Hospital Service commission's conviction that a curative serum more potent than Sanarelli's may be produced and that the disease may be rendered far easier of prevention and cure than it has hitherto been found.

THE CRUSADE AGAINST "SWEATING."

We have always been opposed to undue restrictive legislation on any subject, believing that the evil of interference with individual liberty is apt to become a remedy worse in its effect on the community than the evil it is designed to remedy, as it is most assuredly a violation of one of the cardinal principles for which the founders of this republic fought. One might as well be subject to a foreign yoke as to the tyranny of a bare majority of one's fellow citizens, whose ideas as to what is for "the public good" are not necessarily really better than ours because they happen to be held by more people, many of whom simply follow the lead of "crowd suggestion."

It is, therefore, in our opinion a subject for congratulation when there is a prospect of effecting public changes of importance to the community by means of any concerted and organized voluntary action, without recourse to legislation. Such an action we conceive that of the National Consumers' League to be. This society, organized last May, has, so we learn from the *New York Times* for August 28th, achieved a result which it is to be hoped will succeed in bringing pressure to bear upon the labor-sweating firms through the most effective means possible—viz., their interests. It is obvious that if means can be found to interest a majority of the public in the purchase of products guaranteed not to be the result of sweat-shop labor, then those firms that place themselves under contract with the

National Consumers' League will make competition harder for the rest.

The National Consumers' League has, we learn from the *Times*, already signed contracts with a large number of manufacturers of "women's white goods." These contract firms will display and affix to their goods from the 1st of September the label of the league, which label will be a guarantee of the four following points: 1. That all goods are made on the premises. 2. That all requirements of the State factory laws are complied with by the firms using the label. 3. That no overtime work is exacted. 4. That children under sixteen years of age have not been employed. These are surely all points the attainment of which is eminently desirable in the interests both of social economics and of public health.

For the success of such a scheme it is obvious that benefits must be shown to accrue from it to both the manufacturers and dealers on the one hand, and the individual purchasers on the other. Provided that the latter can be awakened to the advantages they derive, the former will inevitably reap their reward in the diversion of the stream of competition in their favor as against other firms which do not follow the same course. It is this difficulty of bringing home to the individual the propriety of putting abstract considerations of the public welfare before, or at least on a par with, his own personal convenience or gain, that is the chief obstacle in any movement of this kind. The person who wants to buy a thing will go where he or she can get the article, considerations of quality, etc., being equal, for the least expenditure. It will remain for the National Consumers' League to convince the manufacturers and dealers that by manufacturing and selling only goods that bear the league's label, they will secure a vantage ground against their competitors who do not so restrict themselves. From the *Times'* report it would seem that they have so far had considerable success in their efforts, for we are informed that "instead of being in a position where it was compelled to urge manufacturers to use the label, the National Consumers' League found a willingness on the part of the manufacturers not only to use the label on their goods, but to pay the cost of printing it, and also to protect it at law in case of any infringement." This is very encouraging, and we hope that the manufacturers who fall in with this public-spirited cause will reap their reward in increased trade and public support.

In clothing especially it is a well-known fact that the system of "sweating" by putting out goods to home work is responsible for the dissemination of much infectious disease. In this respect alone, if the National Consumers' League can enforce by "moral suasion" manufacture on the premises and the periodical health inspection of the work people, it will achieve a great public work and one directly affecting the individual purchaser, and will doubtless materially aid the sanitary authorities in checking the dissemination of disease germs. It is too much to hope, we fear, that any measures can be taken to prevent work people, themselves healthy, from carrying disease from homes where infectious disease exists; but something even in that direction might be accomplished by a routine disinfection of all employees on coming to work, thus minimizing the danger as much as possible.

We gather that the "white-goods" trade is simply a beginning, but an appropriate one, for it will appeal directly to women, whose sympathetic tendencies are on the whole more active than those of the male sex. It is expected, however, to extend the operations of the league in course of time, and to carry on an active national crusade.

We cordially wish the National Consumers' League all success in the attainment of its undoubtedly excellent objects, and shall watch the result of its experiment with sympathetic interest.

THE LIQUOR AMNII AND THE FŒTAL KIDNEYS.

It has long been a matter of discussion as to whether or not the kidneys of the fœtus were functionally active, and, consequently, as to whether or not the liquor amnii consisted in great part of the urine of the fœtus. To settle the question, Schaller (*Archiv für Gynäkologie*, lvii, 3; *Deutsche Medizinal-Zeitung*, April 24th) has resorted to a most ingenious method of investigation, namely, that of administering phlorrhizin to pregnant women. Phlorrhizin, a constituent of the root bark of various fruit trees, has been known for years to have the property of causing glycosuria when ingested. Schaller's plan was to ascertain if the liquor amnii contained sugar in considerable amount after the administration of phlorrhizin to the mother. If he found none, he would conclude that the *fœtus in utero* did not urinate; if he found only a small amount, he would infer that the functional activity of the fœtal kidneys was displayed only during the late period of intra-uterine life; if he found it in abundance, he would agree with Gusserow and his followers that the liquor amnii was largely composed of fœtal urine. All this was founded on the assumption that phlorrhizin administered to the mother would pass into the fœtal circulation and be carried to the fœtal kidneys, and it is in the kidneys that the sugar of phlorrhizin glycosuria is wholly or for the most part formed.

Schaller concludes that there are no regular secretion and periodical excretion of urine by the fœtus, even at the very end of pregnancy; that the functional activity of the fœtal kidneys does not begin until the process of parturition induces changes in the placental circulation, and that even during labor the fœtus does not generally urinate into the liquor amnii; that it is only very exceptionally that the fœtal bladder is emptied into the liquor amnii, and then most probably in consequence of disturbances of the fœtal circulation; that the liquor amnii is a transudation from the maternal vessels; and that the kidneys of the newborn child perform their function more slowly than those of the adult. These observations seem to settle the question of the relationship of the liquor amnii to the urine of the fœtus.

A SPECIAL SYNDROME OBSERVED AT THE ONSET OF CHRONIC PULMONARY TUBERCULOSIS.

M. Fernet (*Journal des praticiens,* August 5th) described at a recent meeting of the Société médicale des hôpitaux a combination of signs generally found in the initial stage of pulmonary tuberculosis which appears to be of great diagnostic value. In addition to the changes in the respiratory murmur, and the dullness and resistance on percussion found at the apex of the lung, which signs are only suggestive when accompanied by other signs and symptoms, M. Fernet finds very generally the presence of three others: 1. Tracheobronchial adenopathy, which is evidenced by dullness and resistance on percussion in the interscapular region corresponding to the diseased apex, combined with hollow, quasi-cavernous breath sounds, the expiratory sound being specially marked. 2. Axillary adenopathy on the affected side. 3. A focus of pulmonary engorgement at the base of the affected lung characterized by deadened note on percussion and often by subcrepitant râles. These phenomena collectively constitute links of a chain of symptoms arising from apical tuberculosis. The value of this "syondrome" in establishing the more than ever necessary early diagnosis of phthisis, if fully substantiated, will prove of inestimable value in the prevention and cure of tuberculosis of the lungs.

THE VALUE OF COEDUCATION OF THE SEXES.

Progrès médical for August 5th quotes from the *Temps* a report of a visit to the "Refuge" of Dr. Stephenson in London for depraved children of both sexes. The visitors, who were delegates from France to a congress for the suppression of traffic in white slaves, say that coeducation gave such marvelous results that, according to Dr. Stephenson, only about two per cent. of the children trained there have returned to their former mode of life. The delegates say that the frank and loyal air, the easy good humor, and the gaiety of the children reared in this establishment were such that they could not at first credit that they were former "incorrigibles," and thought that the children of well-to-do people in the West End of London must have been pressed into service to impress the visitors. Coeducation is a novelty in England, though we have for some time been familiar with its good results in this country. But the test furnished to our French colleagues must be considered a very searching one.

CARBUNCLE OF THE BACK OF THE NECK.

Interstitial injections of germicides in cases of anthrax of the nucha are no novelty, but their efficacy in an affection which is sometimes very grave deserves to be mentioned from time to time. At a recent meeting of the National Society of Medicine of Lyons (*Lyon médical,* July 23d) a case was related in which there had been signs of septicæmia, the patient being mildly delirious and having a temperature of 104° F. A one-per-cent. solution of iodine, made with the aid of potassium iodide, was injected at five different points, and the injections were repeated in three days. The patient recovered.

THE DEATH-DEALING EXPLOSIVES OF THE FOURTH OF JULY.

We have some excellent laws intended to restrain the prevalent demoniac way of celebrating the Fourth of July, and we are accustomed to annual announcements by the police that those laws are to be enforced, but they never are. We hope, however, that some good may come of the discussion of the subject that was introduced by Dr. William J. Todd at a recent meeting of the Baltimore County Medical Association (*Maryland Medical Journal,* August 5th). The State's attorney was present and encouraged the association to make its views known to the community.

PROLAPSE OF AN OVARIAN TUMOR WITH THE RECTUM.

The escape of the ovary from the pelvis is not an occurrence of great rarity, but it is uncommon enough to make most instances worth recording. This is particularly true of such a case as was reported lately before the Illinois State Medical Society by Dr. J. A. Baughman, of Neoga (*Illinois Medical Journal,* August). There was a large prolapse of the rectum, and the right ovary, degenerated and enlarged by a small cyst, was contained in the anterior pouch. The left ovary also was diseased, and both were removed by abdominal section. The woman had passed the menopause.

COMPULSORY REPORTING OF TUBERCULOUS DISEASE.

Ever since some of the health boards began to insist that physicians should report their cases of tuberculous disease there has been, besides resentment on the part of practitioners, the feeling that, on the whole, such reports would do more harm than good, unless great tact was employed. This feeling was well expressed by Dr. J. J. Mulheron in a recent case in which Dr. E. L. Shurly, of Detroit, the well-known laryngologist, was prosecuted for failing to report a case. According to the *Detroit Free Press,* Dr. Mulheron said: "This measure will frighten people so that relatives of consumptives will be dropped out of places of employment and worlds of injustice will be done through a foolish fad of some theorists."

RAILWAY ACCIDENTS IN THE UNITED STATES.

It appears from the Inter-State Commerce Commission's *Statistics of Railways in the United States* for the year 1898, recently issued in an incomplete form (without the six statistical tables), that more persons were killed or injured by railway accidents in that year than in any other since 1893. But this was not true of passengers; the increase of casualties was among employees, and no doubt it was occasioned by the necessity of employing many inexperienced men, owing to the great increment of traffic, as is suggested by the statistician, Mr. Henry C. Adams. On the whole, railway travel in this country, we are happy to say, seems to be growing safer every year.

WOMEN NURSES IN THE PHILIPPINES.

It is reported that the medical officers on duty in the Philippines are desirous of having a much larger number of trained women nurses for duty in the military hospitals there than General Otis thinks necessary. It is understood that the surgeon-general has full power and discretion in the matter, and we are confident that he will not turn a deaf ear to such experienced and conservative officers of the medical corps as Colonel Woodhull, for example.

THE OVA OF THE TAPEWORM AS A CAUSE OF PERITONEAL PSEUDOTUBERCULOSIS.

At a recent meeting of the Berlin Freie Vereinigung der Chirurgen (*Centralblatt für Chirurgie*, August 5th) Helbing reported a case of perityphilitic abscess, apparently tuberculous, which contained nodules in which, on close examination, the ova of a tænia were detected. It is not stated whether or not there was perforation of the vermiform appendix.

THE PAIN OF PERITONITIS.

H. Nothnagel (*Prager medicinische Wochenschrift*, 1899, No. 14; *Centralblatt für Chirurgie*, August 5th) properly cautions the practitioner against undue reliance on the stock statement that the pain of peritonitis is never paroxysmal. Sometimes there are distinct remissions. In many respects the teachings of the schools have to be unlearned in the school of practice.

ADHESION OF THE PLACENTA TO THE FŒTAL HEAD.

This abnormity is among the greatest of obstetrical rarities; apparently there are but two cases on record. The most marked of the two was lately reported in a Croatian journal by von Zderas, and an abstract of his account is to be found in the *Centralblatt für Gynäkologie* for August 5th. The fœtus was extracted dead in the fifth or sixth month.

A SURGICAL OPERATION UNDER LYNCH LAW.

The newspapers have recently had accounts of the proceedings of a mob in Falls City, Nebraska, in the case of a man who was in jail under the charge of having indecently assaulted a little child. The man was brought out and submitted to a surgical operation—castration, we presume—at the hands of medical men who had come prepared to perform it. We have nothing to say on the subject of mob punishment in general, because it is beyond the scope of this journal, but we must express our regret that the surgical art should be a weapon in the hands of a mob.

ITEMS.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending August 25, 1899:

Small-pox—United States.

Jacksonville, Fla	Aug. 12–29	1 case.	
New Orleans, La	Aug. 12–19	1 "	
Boston, Mass.	Aug. 12–19	2 cases.	
Cincinnati, Ohio	Aug. 12–18	2 "	
Alleghany, Pa	Aug. 12–19	5 "	
Portsmouth, Va	Aug. 12–19	3 "	

Small-pox—Foreign.

Rio de Janeiro, Brazil	July 7–14		11 deaths.
Panama, Colombia	Aug. 1–8	2 cases,	1 death.
Cairo, Egypt	July 15–22	4 "	
London, England	July 29–Aug. 5	1 case.	
Athens, Greece	July 29–Aug. 5	7 cases,	3 deaths.
Bombay, India	July 11–18		5 "
Bombay, India	July 18–25		9 "
Madras, India	July 1–8		2 "
Chihuahua, Mexico	Aug. 7–14		1 death.
Mexico, Mexico	July 30–Aug. 6	4 "	3 deaths.
Nuevo Laredo, Mexico	July 5–Aug. 12		1 death.
Odessa, Russia	July 29–Aug. 4	4 "	1 "
St. Petersburg, Russia	July 22–29	8 "	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	July 7–14		6 deaths
Port Limon, Costa Rica	Aug. 18	1 case.	
Havana, Cuba	Aug. 3–17	26 cases,	5 "
Sancti Spiritu, Cuba	Aug. 24	2 "	
Santiago, Cuba	July 30–Aug. 12	10 "	5 "
Tuxpam, Mexico	July 31–Aug. 8		5 "
Vera Cruz, Mexico	July 27–Aug. 3		16 "
Vera Cruz, Mexico	Aug. 3–10		16 "

Cholera.

Bombay, India	July 18–25		2 deaths.
Calcutta, India	July 8–15	7 cases.	

Plague.

Bombay, India	July 12–18		53 deaths.
Bombay, India	Aug. 18–25		68 "
Calcutta, India	July 8–15		3 "
Oporto, Portugal	Aug. 16	39 cases,	13 "
Smyrna, Turkey	July 30	4 "	3 "

Notice to Candidates for Appointment in the Marine-Hospital Service.—The surgeon-general has issued the following notice: A board of officers will be convened at the Service Building, 378 Washington Street, New York city, Wednesday, October 4, 1899, for the purpose of examining candidates for admission to the grade of assistant surgeon in the United States Marine-Hospital Service. Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character. The following is the usual order of the examination: 1. Physical. 2. Written. 3. Oral. 4. Clinical. In addition to the physical examination candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate. The examinations are chiefly in writing, and begin with a short biography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences. The clinical examination is conducted at a hospital, and when practicable candidates are required to perform surgical operations on the cadaver. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment the young officers are, as a rule, first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After five years' service, assistant surgeons are entitled to examinations for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority, and after due examination as vacancies occur in that grade. Assistant surgeons receive sixteen hundred dollars, passed assistant surgeons two thousand dollars, and surgeons twenty-five hundred dollars a year. When quarters are not provided, commutation at the rate of thirty, forty, or fifty dollars a month, according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay, ten per centum in addition to the regular salary for every five years service up to forty per centum after twenty years' service. The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address: Supervising Surgeon-General, United States Marine-Hospital Service, Washington, D. C.

Change of Address.—Dr. Bernard Sour, to No. 68 West Ninety-seventh Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 19 to August 26, 1899:*

BAILEY, GUY G., Acting Assistant Surgeon, United States Army, will report to the commanding officer of the United States troops on the transport *St. Paul* for duty during the voyage to Seattle, Washington, and return by rail to the Presidio, San Francisco.

BELL, JOSEPH L., Acting Assistant Surgeon, United States Army, is relieved on account of sickness.

BRADLEY, HENRY H., Acting Assistant Surgeon, United States Army, is assigned to duty at the United States General Hospital, the Presidio, San Francisco.

CALKINS, GEORGE H., Acting Assistant Surgeon, United States Army, will report to the commanding officer of the United States troops on the transport *Siam* for duty during the voyage to the Philippine Islands.

CARDWELL, HERBERT W., Major and Chief Surgeon, United States Volunteers, will report on board the transport *Senator* for duty during the voyage to the Philippine Islands.

EDIE, GUY L., Major and Brigade Surgeon, United States Volunteers, will report to the provost marshall general, Manila, for duty with the board of health of that city.

FOWLER, E. W., Acting Assistant Surgeon, United States Army, will report to the commanding general, Division of Cuba, for duty.

GARDNER, EDWIN F., Major and Surgeon, United States Army, is detailed as an additional member of the general court martial convened at Fort Grant, Arizona.

HOWARD, DEANE C., Captain and Assistant Surgeon, United States Army, is detailed as a member of the board of officers to meet at West Point, New York, for the physical examination of candidates for admission to the United States Military Academy, *vice* BACHE, DALLAS, Colonel and Assistant Surgeon-General, United States Army, relieved.

KNEEDLER, WILLIAM L., Captain and Assistant Surgeon, United States Army, will report to ARTHUR, WILLIAM H., Major and Surgeon, United States Army, commanding officer of the United States hospital ship *Missouri*, for duty.

SWIFT, EUGENE L., Captain and Assistant Surgeon, United States Army, will report to the commanding officer of the United States troops on the transport *Morgan City* for duty during the voyage to the Philippine Islands.

TUKEY, WILLIAM H., Acting Assistant Surgeon, United States Army, is detailed on temporary duty at the Presidio, San Francisco, in connection with the medical examination of officers and enlisted men of volunteer troops returning from the Philippine Islands.

WILSON, JAMES S., First Lieutenant and Assistant Surgeon, United States Army, will report to the Department of the Pacific and the Eighth Army Corps for duty.

The following changes in the stations and duties of officers of the Medical Department are ordered: MUNSON, EDWARD L., Captain and Assistant Surgeon, United States Army, to Washington Barracks, D. C.; KEMP, FRANKLIN M., First Lieutenant and Assistant Surgeon, United States Army, to West Point; and GIBSON, ROBERT J., Major and Surgeon, United States Army, to San Francisco.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Two Weeks ending August 24, 1899:*

IRWIN, FAIRFAX, Surgeon. To proceed to Marseilles, France, and Lisbon and Oporto, Portugal, for special temporary duty.

WASDIN, EUGENE, Surgeon. To report at Washington, D. C., for special temporary duty.

GEDDINGS, H. D., Passed Assistant Surgeon. To proceed to New York for special temporary duty.

SMITH, A. C., Passed Assistant Surgeon. To proceed to Hampton, Virginia, and report to Surgeon J. H. WHITE for special temporary duty.

STIMPSON, W. G., Passed Assistant Surgeon. To report at Washington, D. C., for special temporary duty.

RICHARDSON, T. F., Assistant Surgeon. Detailed as quarantine officer for the port of Nuevitas, Cuba.

SCHUG, F. J., Acting Assistant Surgeon. Granted leave of absence for thirty days from August 15, 1899.

WOODS, C. H., Hospital Steward. Granted leave of absence for fifteen days from August 16, 1899.

RICHARDSON, S. W., Hospital Steward. To proceed to Birmingham, Alabama, for special temporary duty.

PECK, F. H., Hospital Steward. To proceed to Hampton, Virginia, and report to Surgeon J. H. WHITE for special temporary duty.

CARMICHAEL, D. A., Surgeon. Granted leave of absence for thirty days.

WASDIN, EUGENE, Surgeon. To proceed to Marshall, Virginia, on special temporary duty. Detailed as delegate to the International Medical Congress to meet at Brussels, Belgium, September 4, 1899.

PETTUS, W. J., Surgeon. Granted leave of absence for one day.

STIMPSON, W. G., Passed Assistant Surgeon. Granted leave of absence for thirty days from August 19, 1899.

OAKLEY, J. H., Passed Assistant Surgeon. To proceed to Paducah, Kentucky, on special temporary duty.

WICKES, H. W., Passed Assistant Surgeon. Granted leave of absence for ten days.

FRICKS, L. D., Assistant Surgeon. Detailed as inspector of unserviceable property at Norfolk, Virginia.

CAMINERO, H. S., Acting Assistant Surgeon. Detailed as quarantine officer for the port of Guantanamo, Cuba.

Promotion.

THURSTON, E. J., to be hospital steward and chemist.

Board Convened.

Board convened to meet at the United States Marine Hospital, New York, at 10 o'clock A. M., August 16, 1899, for the physical examination of a candidate for appointment in the Revenue-Cutter Service. Detail for the Board: STONER, GEORGE W., Surgeon, chairman; HOBDY, W. C., Assistant Surgeon; BILLINGS, W. C., Assistant Surgeon, recorder.

Society Meetings for the Coming Week:

MONDAY, *September 4th:* New York Academy of Sciences (Section in Biology); Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, New York, Academy of Medicine; Utica, New York, Medical Library Association; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *September 5th:* Buffalo Academy of Medicine (Section in Surgery); Elmira, New York, Academy of Medicine; Ogdensburgh, New York, Medical Association; Syracuse, New York, Academy of Medicine; Medical Societies of the Counties of Franklin (quarterly), Herkimer (semiannual), and Niagara (quarterly), New York; Hudson, New Jersey, County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *September 6th:* New York Academy of Medicine (Section in Public Health); Medical Microscropical Society of Brooklyn; Medical Society of the County of Richmond, New York (New Brighton); Bridgeport, Connecticut, Medical Association.

THURSDAY, *September 7th:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, New York; Obstetrical Society of Philadelphia; Medical Society of City Hospital Alumni, of St. Louis; Atlanta Society of Medicine.

FRIDAY, *September 8th:* Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, *September 9th:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

WILSON—LINDSAY.—In Boston, on Sunday, August 13th, Dr. Compton Wilson, United States Army, and Miss Jane Lindsay.

Died.

LINSON.—In Tarrytown, New York, on Sunday, August 27th, Dr. John J. Linson, in the seventy-second year of his age.

MCLEOD.—In New York, on Wednesday, August 23d, Dr. Samuel Brown Wylie McLeod, in the sixty-ninth year of his age.

SCHRENK.—In New York, on Sunday, August 20th, Dr. Andrew Schrenk.

THORNER.—In Avondale, Ohio, on Sunday, August 27th, Dr. Max Thorner, of Cincinnati.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XXXIV.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(*Continued from page 316.*)

Liability for Presence of Unprofessional Attendant.—A peculiar case of liability arose a number of years ago in Michigan from an act which, although apparently done in good faith, was reprehensible indeed.

The evidence showed that a doctor who was sick and fatigued from overwork, and who was compelled to go a considerable distance over roads so bad that a horse could not be ridden or driven over them, to attend a case of confinement, secured the reluctant consent of a young unmarried man to attend him and assist in carrying his lantern, umbrella, and other articles necessary for the occasion, the night being dark and stormy. The plaintiff's house consisted of one room, with a bed, sink, or alcove, in front of which there was a curtain, and in which the doctor expected to find the patient. Upon arriving at the house the doctor told the husband he had brought a friend to help carry "his things." The husband said "All right," and invited them in and made no objection to the young man. Upon entering they found the patient in the main room, and it was there she was delivered of the child. The young man conducted himself in a respectful manner, and excepting once, when called to hold the patient's hand, while in a paroxysm of pain, sat facing the wall. Both the patient and her husband claimed they did not know the non-professional character of the young man, but supposed he was a physician or a student practising under the attending physician, and therefore made no objection to his presence.

In the trial court judgment was rendered for plaintiff, from which defendant took an appeal. Chief-Justice Marston, of the supreme court, in reviewing the case, said: "It would be shocking to our sense of right, justice, and propriety to doubt even, but for such an act the law would afford an ample remedy. To the plaintiff the occasion was a most sacred one, and no one had a right to intrude unless invited, or because of some real and pressing necessity, which it is not pretended existed in this case. The plaintiff had a legal right to the privacy of her apartment at such a time, and the law secures to her this right by requiring others to observe it, and to abstain from its violation. The fact that at the time she consented to the presence of the young man, supposing him to be a physician, does not preclude her from maintaining an action and recovering substantial damages upon afterward ascertaining his true character. In obtaining admission at such a time and under such circumstances, without fully disclosing his true character, both parties were guilty of deceit, and the wrong thus done entitles the injured party to recover the damages afterward sustained, from shame and mortification upon discovering the true character of the defendants." *

Liability for Wrongful Certificate of Insanity.—The duty which a physician is frequently called to perform, of passing upon the mental state of a fellow man, who, by virtue of his judgment, is either permitted to remain at large or is confined in a lunatic asylum, is a most grave and responsible one. An error of judgment may, on the one hand, mean a menace to the peace and even safety of the community, or, on the other hand, an unjust and lamentable deprivation of that most important of all rights, personal liberty.

The purpose of the present examination of law is, however, to examine the physician's liability for an improper exercise of these functions, and not the physician's duties and obligations to society or to the person whose sanity is in question, except in so far as they affect the real subject of inquiry.

The method of determining the mental condition of one suspected of being insane is regulated in the several States by statutes differing somewhat in the different jurisdictions. A common method, however, of obtaining summary protection from the violence or possible violence of a lunatic is to confine him upon the certificate of usually two reputable physicians. What civil liability the physician incurs who errs in making this certificate is the question to be considered.

The first step to be taken in passing upon the liability of a physician is to determine whether or not the certificate is in itself correct or false. If the certificate is found to be correct, this, it seems, is a complete bar to a civil action against the physician for damages, for, in the absence of a statute imposing a penalty for a failure to comply with a certain method or mode of procedure in determining the mental condition of the party examined, the physician incurs no liability for the inefficiency of the modes which he pursued in reaching and certifying a correct conclusion.* Moreover, it has been held that the burden of proof is upon the plaintiff to show that at the time the certificate of insanity was given he was in fact sane, and that until this fact is shown by a preponderance of evidence the physician signing the certificate can not be held liable.†

It appearing that the certificate of insanity is incorrect, and that the physicians have erred in their conclusion and certified to a condition which did not exist, does it then follow that a civil action for damages in favor of the person who has been wrongly imprisoned will lie against them? The answer to this question is practically the same as that which has been made to nearly every question arising in the cases of malpractice examined in these articles—viz., if the defendants were possessed of the ordinary amount of knowledge and skill which the law requires for the proper exercise of their duties, and if they used ordinary and reasonable care in making the examination and exercised their best judgment in determining the party's mental condition, then they are not liable, whether their conclusion is correct or not. There is a prominent English case ‡ in which this question was passed upon and the law governing the defendant's liability lucidly and elaborately expounded by Justice Crompton in his instruction to the jury. The case is rather voluminous, covering over thirty pages in the volume of reports where it is recorded, yet a brief examination of the facts and the law which was held to be applicable will probably compensate in enlightenment for the time required. The plaintiff was a shopkeeper in London, who lived very discordantly with his spouse—in fact, the want of domestic harmony was frequently manifested in outbursts of violent temper, in which the use of abusive and obscene epithets was common, and even physical violence to the wife's person had been complained of. The plaintiff complained, among other things, of the wife's extravagance, and the evidence did show that she had taken articles from the shop and pawned them. The wife was accustomed to going to certain physicians with her complaints regarding the husband's treatment, among whom was one of the physicians who subsequently signed the certificate of lunacy. Upon one occasion when the husband met this physician and his wife together he made a remark which the physician construed as an imputation against the wife's chastity, but which the husband apparently did not so intend. The wife also claimed that the husband slept with a drawn sword by his bed and that he repeatedly threatened her life. The defendant in the case, together with the physician above referred to, perhaps from a desire to relieve the wife from the hardship of the husband's persecutions, after a few minutes' conversation held with him at different times, signed separate certificates of his insanity in which they respectively assigned the grounds for believing him insane, as follows:

First Certificate: 1. Facts indicating insanity observed by myself: He had a wild and staring look, with restless eyes and nervous, agitated manner. He represented to me that his wife was ruining himself and business, and he intimated that she was improperly associating with other men; he is evidently laboring under delusions, and he acts upon these delusions.

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* De May *vs.* Roberts, 46 Mich., 160.

* Pennell *vs.* Cummings, 75 Me., 163.

† *Ibid.*

‡ Hall *vs.* Semple, 3 F. and F., 337.

2. Other facts (if any) indicating insanity communicated to me by others.

He is guilty of repeated acts of violence; he constantly threatens his wife and often assaults her; he sleeps with a drawn sword by his bedside, and declares he will murder any one who approaches him, and he has often threatened to stab his wife.

The defendant who signed this certificate had not seen the sword at the time of certifying the plaintiff insane, but he afterward learned that the "drawn sword" was a theatrical or court dress sword.

Second Certificate: 1. Facts indicating insanity observed by myself: He had a restless, irritable, and excited manner, with a glaring look, and expressed much vindictiveness toward his wife, and said, "I must be a fool to mind what that woman has said." He said she had her fellows continually running after her, and intimated that I was one of them.

2. Other facts (if any) indicating insanity communicated to me by others:

On a former occasion, when I had called to see him, he had just before broken the looking glass to pieces, also the marble mantel and bedstead; had been brandishing knives over his wife's head, and using horrid language, sometimes kicking her, tearing her bonnet and clothes off, and all without provocation, as I find from neighbors and old acquaintances that she is a discreet, sober, prudent, and patient woman.

This certificate was based upon an interview had more than seven days previously, and was accordingly, under the English statute, irregular, and of no effect. The plaintiff was released when the irregularity of the certificate was discovered, and he soon thereafter commenced suit against the defendant for damages.

The law which was held to govern in the case can probably be no better expressed than in the words of Justice Crompton taken from his charge to the jury. Therein the judge said: "Take me as saying to you in point of law that if a medical man assumes under this statute the duty of signing such a certificate, without making and by reason of his not making a due and proper examination, which a medical man under such circumstances ought to make and is called on to make, not in the exercise of extremest possible care, but in the exercise of ordinary care, so that he is guilty of culpable negligence, and damage ensues, then, that an action will lie, although there has been no spiteful or improper motive, and though the certificate is not false to his knowledge.

"The true ground of plaintiff's complaint is the negligence of the defendant, and the want of due care in the discharge of the duty thrown upon him; and I think that if a person assumes the duty of a medical man, under this statute, and signs a certificate of insanity which is untrue, without making the proper examination and inquiries which the circumstances of the case would require from a medical man using proper skill in such a matter, if he states that which is untrue and damage ensues to the party thereby, he is liable to an action, and it is to that I desire to call your particular attention. It is not that a medical man is bound to form a right judgment so as to be liable to an action if he does not. There are cases of insanity which are very difficult to deal with or to understand. But what he is required to do is to make an examination, and, if it be necessary, to make such inquiries as may be required. It would be unjust if a man were to be visited, in cases of this kind, with consequences arising from mere error of judgment or mistake of fact.

"There must be, to make him liable, negligence in the discharge of those proper duties which it must be taken he has assumed in undertaking to sign the certificate of insanity, and if you are satisfied that there has been negligence with reference to these matters—culpable negligence, as I have described—then he is liable. Now, I can not help thinking in a matter of this kind, which is not like a mere preliminary inquiry before a magistrate, but a proceeding upon which a man is to be at once confined to imprisonment as a lunatic, very considerable care is necessary. One can hardly say precisely what that degree of care may be. It is said that one man may be satisfied with a quicker examination than another. We, for instance, would take a long time before we should be able to form a judgment in a matter of this kind. A person experienced in such matters might decide more quickly, while an ordinary medical practitioner might require a longer time. We take it as clear, however, that considerable care ought to be used."

The jury in this case rendered a verdict for the plaintiff, assessing his damages at one hundred and fifty pounds.

The principles which were held to govern in the English case have been accepted as the law by American courts whenever this question has arisen,* and will undoubtedly continue to be so accepted. Therefore, as long as the physician possesses proper knowledge and science and conducts the examination with reasonable and ordinary care the result of his conclusion will never despoil his estate, even though in the exercise of his best judgment he may have been in error.

Other cases might be shown to illustrate, possibly more fully, the application of the principles, but it is thought that further elaboration will be superfluous.

(*To be continued.*)

Pith of Current Literature.

The Internal Administration of Urotropine to Destroy Infectiousness of Typhoid Urine.—The *Montreal Medical Journal* for August, in an editorial On the Infectiousness of Typhoid Excreta, says that we have to recognize that it is in the late stages of the disease that the urine may be infectious and that this infection may continue far into convalescence. In one case Petruchsky found the enormous number of a hundred and seventy-two million bacilli in each cubic centimetre of urine. Indeed, as Horton-Smith points out, the wide contamination of extensive sources of water supply is more easily explicable by means of this infected urine than by the fæces.

It would seem, says the *Journal*, almost impossible to lay down strict rules with regard to the disposal of the urine of those who regard themselves in complete health; it is, however, possible for the physician to order that, until the very last day of their confinement as patients, the urine of those suffering from typhoid should be disinfected; beyond this point it is practically impossible to lay down any rule. Happily, there is still another way out of this difficulty. Richardson (*Journal of Experimental Medicine*, 1899, vol. iv, p. 1) has proved very clearly that the administration of ten grains of urotropine three times a day leads to the rapid disappearance of the bacilli from the urine. In one case in St. Bartholomew's, under Dr. Gee and Dr. Andrews, treatment for three days with salol had no effect, the typhoid bacilli remaining present in enormous numbers in the urine; when urotropine was given as above, at the end of forty-eight hours the urine became and remained henceforth absolutely sterile.

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* Williams *vs.* Le Bar, 141 Pa., 149; Ayers *vs.* Russell, 50 Hun, 282, 3 N. Y. Supp., 338; Hurley *vs.* Martine, 31 N. Y. S. R., 471, 10 N. Y. Supp., 92.

Thus, the *Journal* says, we may well recommend with Richardson and Horton-Smith that all typhoid patients be given small doses of urotropine, commencing with the third week of the disease.

The Relation of Wines to Rheumatism and Gout.—Dr. P. C. Redmondino (*Pacific Medical Journal*, August), in a paper on Wine and Gout, says that from experience and observation, as well as comparisons, he has come to look upon light beers, light wines, and even dry champagne, when partaken of judiciously and in moderation, as being the very opposite of injurious in either gout or rheumatism; in fact, were the moral restrictions cast about wine drinking at meals and the seeming immorality or wickedness of the practice removed from the mind and from our customs so that our table habits would more resemble those of the temperate Latin and Teutonic countries of Europe, he is satisfied that there would be less dyspepsia and less rheumatism, as well as much less of the many and various neurotic ailments which in these American climates take the place of gout.

Disease statistics show that among the Germans who indulge habitually in small beers, as well as among the inhabitants of the Rhine and Mosel wine districts where the average man drinks at least from one to two quarts of beer or a bottle of wine daily, gout and its cousin, rheumatism, exist in a greatly diminished ratio.

Great care must, however, he says, be taken that only light, dry wines are used. Many of our California wines, besides being heavily alcoholic, are also very injuriously sweet. To this category belong most of our muscatels, our sherries, and our ports, which in their natural state greatly resemble the heavy Portuguese or Spanish wines to whose use England largely owes its quota of gout; a disease which was rare in England previous to the date of the exclusion of the light wines of France by the working of the Methuen Treaty of 1703, during the reign of Queen Anne, which replaced the former light table wines of France by the heavy and reenforced wines of Portugal and Spain, a change which not only inflicted the gout upon hapless England, but also brought to that nation the largest quota of its intemperance, much of the resulting difficulties, moral and physical, being due to the change in the wines induced by the reenforcing or fortifying deemed necessary for the transportation of the wine; for in Spain or Portugal, where these wines are drunk in their unfortified condition, neither drunkenness nor gout is observed as a result of their consumption. It is from this fortification with alcohols of doubtful sources and greatly varying in their effect upon man that much harm results, as the fortification is not always performed with alcohol made from wine that is pressed from the grape, carefully collected statistics made in France showing that consumers of spirituous liquors distilled from the grape largely escape the direful effects of delirium tremens as well as the transmission of hereditary degenerations resulting from alcoholic overindulgence, in comparison with those who indulge in alcoholic liquors produced by distillation from pears, potatoes, or rice.

One Hundred and Thirty-two Gallstones removed without Operation.—Dr. Edward Spiedel (*American Practitioner and News*, July 1st) records the case of a lady, fifty-five years of age, who suffered severely from gallstones, and who first consulted him on September 17, 1898. The treatment consisted of a calomel purge followed by a saline. Three glasses of buttermilk daily were ordered, the quantity to be increased as the patient became accustomed to it. Hot baths at bedtime were ordered twice weekly, and three times weekly a high rectal enema of normal saline solution at a temperature of from 110° to 120° F.

For the attacks of colic the patient was given a mixture containing two grains and a half each of antipyrine and phenocoll muriate to the dose, such a dose to be taken every half hour with hot water until relieved, the hot bath and rectal injection being used at the time also. In the interval the patient was put upon ten grains of salicylate of strontium three times daily. During the last two months the medication consisted of increasing doses of tincture of *Chionanthus virginica*, the prescription being varied by the addition at times of one of the tonic bitters, as nux vomica and calumba, again by the addition of arsenite of copper, and in the last month by the administration of nitro-muriatic acid with the chionanthus.

The patient improved gradually under treatment, the attacks of colic becoming shorter and less frequent.

On December 3d the patient had a severe attack of colic, beginning early in the morning and lasting until 6 P. M. At that time she had an intense pain and desire to go to stool, and then passed the gallstones exhibited by the author in connection with this case. The patient collected the one hundred and thirty-two gallstones shown, and asserted that quite a number escaped from the bowl of the water-closet before she realized what had occurred. A few small stones were passed in the succeeding days, but since the 7th of December none had been noticed; the patient had been entirely free from colic; the pigmentation of the skin was disappearing, and her general health was improving in every respect. Upon examining the gallstones in the bottle, two of them were found to be very much larger than the others. The writer's idea was that the cystic duct was occluded by the two large stones, the smaller ones being imprisoned above them in the gall bladder. It was also thought that in the beginning the common duct was occluded by the greenish thick mucus that was passed with the fæces at times in the early treatment of the case.

The Dangers of Caffeine.—According to the *Indian Medical Record* for July 12th, the popular idea of the harmlessness of caffeine has been dealt a blow by Dr. M. K. Zenetz, extraordinary professor of therapeutics at the faculty of medicine at Varsovic, who shows that it may cause sudden death by arrest of the heart in systole. He cites three cases: One was that of a woman free from any organic lesion, who, feeling indisposed, took every two hours a powder containing thirty centigrammes (4.5 grains) of citrate of caffeine; after the fifth dose she fell down in a state of syncope, from which she was roused with difficulty. After recovery she continued to take caffeine, and died suddenly after taking another five powders. The second was a case of pneumonia. The patient died suddenly after taking in the space of two days one gramme twenty centigrammes (eighteen grains) of citrate of caffeine. The third was a woman suffering from nephritis. She died suddenly when taking caffeine.

In these three cases the heart was found at the autopsy to be so firmly contracted that it could with difficulty be cut with a scalpel. In other cases also serious symptoms have been observed. When the caffeine is stopped it continues to appear in the urine for from ten to fifteen days. It is, therefore, eliminated slowly by the kidneys, and its dangerous effects are due to its accumulation in the system.

The Vomiting of Pregnancy.—Buford (*Memphis Lancet*, July) says that the observable mechanical phenomena of emesis are solely those referable to the stomach as a muscular viscus, and are shown in proportion to the degree of irritation, central or peripheral, first in the sensation of pain or nausea, and secondly in the reversed peristalsis of the stomach, producing the ejection of its contents. Vomiting is then the result of peripheral or central irritation, as is seen from the taking of improper food on the one hand and the results of epilepsy, or rather of the causes producing epilepsy, and of head injuries on the other. Since nausea and emesis of pregnancy often occur when the stomach is empty, and especially in the morning, after the contents of the stomach from the previous day have been passed into the bowels, the idea of a reflex from peripheral irritation of the pneumogastric nerve may be entirely eliminated. This forces us to the conclusion that there must be a central cause for it, which from the very nature of the conditions must be a chemical substance, brought by the blood current in direct contact with the vomiting centre, which is in the nucleus of the vagus, in the floor of the fourth ventricle.

To explain this he says: The normal result of conception is cell multiplication, the fecundated cell or ovum elaborating its constructive material from that presented to it by the blood. This cell proliferation takes place in the fœtus, in the walls of the womb, and in the mother, depositing fat for future use. Cell metabolism is abnormally active in both the embryo and the mother, resulting in anabolism. Constructive metabolism is possible only by the cell appropriating to itself suitable material for its growth. Whether the cell by its inherent power appropriates the proximate principles as such, which are presented in the blood, or by its catalytic force splits up the molecules, and then recombines them, there are left in the blood current certain substances, excrementitious in character, both free and combined, which during cell metabolism have given up some one or more of their elements, especially oxygen, nuclein, and the sulphur and phosphorus compounds. There also is *pari passu* with anabolism, catabolism. During this process nucleinic acid is liberated, which in turn is split up into uric acid and albumin, the albumin probably recombining, and the uric acid is supposed to be eliminated through the maternal emunctories. The residue left in the maternal blood current is chemical units which combine and recombine according to biochemic laws to form intermediary and end products, to be excreted or to perform further duties in the economy, and only become deleterious when they accumulate or are produced faster than they are eliminated. Then during all mitosis we find liberated uric acid in proportion to all metabolism. During the first four months of pregnancy both fœtal and maternal metabolisms are most rapid, and it is usually during this period that nausea and emesis are most distressing. This period of active development of the fœtus and deposit of fat by the mother is the time that the heaviest demands are made for material for cell growth, and consequently there exists increased desire for food by the mother. Nature makes provision for the normal elimination of these by-products or leucomaines *per vias naturales*, and this is why we see the passage of so much urine during this period. If this excessive urination were due to pressure against the bladder by the growing uterus, we should have a smaller quantity passed at night, but the kidneys secrete at night as well as by day, and we find the bladder responding to the irritation of the acid urine at night as well as during the day. When cell metabolism is active and heavy demands are made for material, overingestion of food results, and we have then what Ewald calls hyperhydrochloria, and this results in transitory nephritis, which is first shown by hypersecretion and then by hyposecretion of urine. During this temporary overloading of the digestive tract, both ptomaines and leucomaines are formed, which depress the nerve centres. Fœtal metabolism is progressing, as is also maternal deposit of fat; and toxines are formed in abnormal quantities and accumulate as a result of defective elimination, the temporary or transient nephritis incapacitating the organs for the full discharge of their physiological functions. This cycle of vicious influences is repeated day after day in various degrees. Emesis and nausea are worse on awaking in the morning, both as a result of the centres responding then more readily to irritations and also because during the quiescence of the functions of the skin and bowels there has been an accumulation of this toxine. As to the nature of this substance, he dare not hazard an opinion, further than to say that probably it is an alkaloid of undetermined chemical formula, a leucomaine of the uric-acid group, which acts centrally on the vomiting centre as does apomorphine. The suggested treatment consists of (1) thorough lavage of the stomach three times daily with alkaline antiseptic solutions; (2) baths and massage to enable the skin to assist the kidneys; (3) free exercise in the open air; (4) diet of proper quantity and quality.

A Lipoma of the Uterus.—A unique case is abstracted in the *British Medical Journal* for August 5th: Brünings (*Monats. f. Geburts. u. Gynäkologie*, May, 1899) removed a tumor of the size of a child's head from the anterior wall of the uterus of a woman, aged fifty-five years. On section, its cut surface appeared bright yellow and soft, and a little fluid exuded, which was found to be full of fat globules. Brünings made out that the tumor was by origin a myoma. He detected every stage of fatty degeneration of plain muscle cells, as well as areas of pure adipose tissue and of perfect muscular fibres. This change was also noted by Amann, who denied that the fat had simply infiltrated the tumor. The growth was therefore a lipomyoma of the uterus. Brünings has not found in medical literature any record of a case of this kind.

Entozoa as a Possible Source of Endometritis.—E. M. Simons (*Centralblatt für Gynäkologie*, No. 26, July 1, 1899; *British Medical Journal*, August 5th) noticed in examining a woman, aged forty-two years and six months, and suffering from rupture of the perinæum and tear of the cervix, that the secretion from the uterus had a peculiar aromatic odor, and that the erosion had a very pale livid color. On the vaginal portion was seen an oxyuris vermicularis, about a centimetre and a half in length, and from the cervical canal another smaller one was extracted. There was neither vulvitis nor colpitis in this case, but possibly the endometritis which existed might be ascribed to the parasite. The patient had long suffered from rectal irritation.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-first Annual Congress, held in Chicago, Monday, Tuesday, and Wednesday, May 22, 23, and 24, 1899.

The President, Dr. William E. Casselberry, of Chicago, in the Chair.

The Sphere of Laryngology.—The president read his annual address thus entitled. (See page 325.)

Is the So-called American Voice due to Catarrhal or other Pathological Conditions of the Nose?—This was the title of a paper read by Dr. John W. Farlow. (See page 327.)

Dr. G. Hudson Makuen, of Philadelphia: I was greatly interested in Dr. Farlow's paper. The subject is one to which we, as laryngologists, should give more attention. It is a common belief among teachers that doctors know very little about voice and speech, and it would seem that specialists in our line should give at least a sufficient amount of attention to the subject to be able to direct the training of the human voice. The high-pitched, nasal American voice, as has been said, is often commented upon, and I believe that one factor in the cause of the high pitch is our American energy and push. Professor William James has written an article on the Gospel of Relaxation, and if we were to follow the precepts that he advocates there would be less of this quality of voice. He says that we pride ourselves on our ambition, but instead of its being a matter for commendation he believes that it is fast growing to be a national calamity.

I suppose that the direct or immediate cause of the nasal voice is a low-hanging palate during speech; the vibrations rise into the postnasal space and nasal chambers, and the result is a nasal voice. Obstructions in the anterior part of the nose have very little to do with it. If I am right in supposing a low-hanging palate to be the direct cause of nasal voice, then the proper treatment would be that which would stimulate the levator muscles of the palate and cause it to be drawn upward and backward against the pharyngeal wall during vocalization.

It is an easy matter to teach the voluntary control of the levator palati muscles, and thus by repeated voluntary contractions to so develop these muscles and their nerve supply as to bring the palate into correct position during speech, and thus shut off the vibrations from the nose and diminish the nasal character in the voice.

Dr. T. A. De Blois, of Boston: One is perhaps led to believe that in the tone of the voice there may be a great deal in racial conditions. We all speak of the guttural German or Russian voices; of the vibratory nasal tones of the French, and the high-pitched Yankee voice. We also hear a great deal of the beautiful, low English voice, and yet apparently mouth-breathing is so prevalent among the English that it is a favorite subject for caricature by the French illustrated papers, and in almost all of these papers you will see my lord and lady (English) marching through the continent with their front teeth exposed like those of a rodent. Among the English, the nose of the higher classes is very long, and probably very little air passes through it except in the act of sneezing. Many of the English people take snuff, and notwithstanding all this the English voice is very sweet in contradistinction to that of the American. This bears out what Dr. Farlow has said as to the little effect the condition of the nasal passages has upon voice production. It would therefore seem largely a matter of education, or the fact that the child grows up among people who all use their voices in the same way.

Dr. John O. Roe, of Rochester: The influence of the accessory sinuses on the voice has not been mentioned by Dr. Farlow and other speakers, yet these cavities have much to do with the tone of the voice. They are the resonant chambers of the head, and the character of the voice depends to a great degree upon their size, shape, and position. Any one studying these cavities with reference to their influence on the voice will be impressed by their lack of uniformity, and will readily see the explanation for the modification of the voice which the great variations in these resonators cause. The reason, therefore, why obstructions in the anterior nasal chambers have so little effect upon the voice is that they do not cut off the resonance of the accessory sinuses; whereas obstructions in the posterior nares cut off the resonance of these sinuses and very materially alter the tone of the voice, as illustrated by the effect of adenoid growths. As the essayist has said, the aptitude of children to imitate the sounds they hear, and particularly the voices of those they are accustomed to associate with, will have a marked influence on the character and intonation of their own voice; and, furthermore, I believe that the language used has also a great deal to do with the intonations of the voice. The continental languages, the German, for instance, in which the guttural sounds and consonants predominate, tend to produce voices that are, as a rule, pitched on a lower key and deeper in tone than others, whereas those languages in which the enunciation of the vowels predominate, the French, for instance, tend to produce voices that are pitched higher and are not so deep and resonant.

Dr. Makuen: It seems to me the best proof of the fact that obstructions in the nasal cavities have little to do with nasal voice is that one may easily imitate the nasal voice without changing the anatomical condition of these cavities. We can use the nasal voice without changing these structures. The change is entirely in the musculation of the vocal and oral mechanisms of speech. (Here Dr. Makuen gave an example of nasal twang in his own voice by relaxing his levator palati muscles.)

Dr. A. W. de Roaldes of New Orleans: The results we obtain in changing some voices that have been acquired largely by faulty habits are strong proofs of what can be done by proper vocal exercises and careful training, either in changing or lowering the tone of the high-pitched voice that Dr. Farlow has been talking about. Certainly, the high-pitched falsetto voice can be changed in the course of a few hours by proper vocal training. There is no question but that the American voice is due largely to faulty habits, which can be overcome by proper vocal exercises and such treatment, regardless of any local effect of the nose, mentioned by the essayist, and understanding that it is the result of imitation. In many communities we have important reasons for this habit in fast living and in the way that people have of forcing and impressing their views on others in a loud manner. This is a question largely of race and education. In the South we do not hear the high-pitched voice very frequently, and I think it is the result, to a great extent, of miscegenation, a mixing of the races, and of habits of life. We do not rush as much as you do up North, and I do not think we meet with so many of these voices in the South. Besides, I do not think the negro race is much addicted to the use of these tonalities. So I think it must be a question of race and of localities due to education. To repeat: Proper vocal exercises and careful training ought to overcome or at least improve this defect, which seems to be a characteristic in certain parts of our country.

Dr. Thomas Hubbard, of Toledo: I am surprised to have heard nothing in regard to the influence of noises, especially in our cities. This is an age in which one half of the population resides in cities, and it is remarkable how we tolerate loud noises. We are forced to cultivate the shrill, carrying voice in speaking on the streets and on street cars, and too often in our very homes. The ear becomes less sensitive to and less critical of the more delicate qualities of the voice in the constant presence of a noisy environment.

Dr. Farlow: With reference to what was said by Dr. Makuen as to the low palate being a factor in the production of the nasal voice, it seems to me that it is due to the lack of use of the palate, and not that the low-hanging palate originally caused the nasal voice; but the nasal voice persisting, the palate, being little used in helping to form the voice, gets out of function, as it were, and consequently the voice becomes more nasal, and continues so.

As regards the accessory cavities, referred to by Dr. Roe, I hardly feel that they have any influence, for the reason that nasal voices are so common here in young children in whom the accessory cavities are practically undeveloped. The frontal and maxillary sinuses are developed but little in young children, in whom the nasal voice is marked. Another point referred to by Dr. Roe is the question of language. The English language is spoken in Canada, India, Australia, England, and the United States, but it is in our own country almost exclusively that the nasal voice is found.

As regards what Dr. Hubbard said about noise having to do with the nasal voice in our cities, I will say that the twangy voice is quite as common in small country New England towns as in the noisy cities.

Dr. Roe: Would not a lack of development of the accessory sinuses in children account for the peculiar high-pitched voice, and as the sinuses developed the voice would become lowered in tone; the peculiar twangy voice would disappear with the enlargement or development of the accessory sinuses? Furthermore, would not nasal obstructions also account for cutting off the nasal resonance in the accessory sinuses?

Dr. Farlow: American children do not have smaller accessory cavities than the children of other countries, but my paper endeavored to show that they are more prone to nasal voice than children of other nations.

(*To be continued.*)

Book Notices.

Electro-hæmostasis in Operative Surgery. By Alexander J. C. Skene, M. D., LL. D., Professor of Gynæcology in the Long Island College Hospital, Brooklyn, etc. New York: D. Appleton and Company, 1899. Pp. x–173.

Ever since the days of Hippocrates pressure and heat have been popular means of arresting hæmorrhage. Surgeons, however, have not depended on these means alone, but have regarded the ligature as their greatest safeguard, employing pressure or heat when ligatures have not been applicable. But Dr. Skene would have us do away with the ligature entirely. There is no doubt that ligatures and sutures frequently prevent the prompt healing of wounds and give rise to sinuses, abscesses, and pain from compressed nerve ends, but it is doubtful if surgeons will soon give them up. The author's ideas were originally suggested by the work of Dr. Thomas Keith, who years ago treated the pedicle in ovariotomy by means of the clamp and cautery.

About two years ago the author first published a paper on the advantages of the electric clamp in ovariotomy, and since that time he has invaded nearly all the fields in surgery with this method, without a secondary hæmorrhage. The electric clamp which he recommends so strongly is not, however, the only rival of the ligature. Tuffier's angeiotribe has met with favor in the hands of a few, especially in crushing the pedicle in ovariotomy. We often see its principle demonstrated in injuries by which a part is carried away. In such cases hæmorrhage rarely follows unless the wound is interfered with. Heat, to be of value as a hæmostatic, must be nicely controlled, and this requires not a little experience with the ingenious instruments at hand, while pressure, without ligation, can not be overdone.

The concluding chapters of Dr. Skene's book are devoted to asepsis and antisepsis, and deal incidentally with much of a miscellaneous character, such as sanitary hospital construction, hospital plumbing, heating, ventilation, and room disinfection. The work contains a great deal of interesting matter and is well worthy of careful reading.

The Mineral Waters of the United States and their Therapeutic Uses. With an Account of the Various Spring Localities, their Advantages as Health Resorts, Means of Access, etc. To which is Added an Appendix on Potable Waters. By James K. Crook, A. M., M. D., Adjunct Professor of Clinical Medicine and Physical Diagnosis at the New York Post-graduate Medical School, etc. New York and Philadelphia: Lea Brothers & Co., 1899. Pp. viii–17 to 588. [Price, $3.50.]

The exhaustiveness of this work, in particular, will impress all who consult its pages.

Naturally the opening chapters are general in their nature and will bear a thorough reading. In them the whole subject of natural mineral waters is completely discussed. These chapters treat, in order, of the origin of springs and their sources of mineralization, the classification of mineral springs, their mode of action, the commercial and synthetic waters, the solid and gaseous components of mineral waters, their therapeutics, and baths and douches.

The greater part of the volume is devoted to a careful description of the individual mineral springs of this country. Each State and Territory of the Union has a chapter to itself, and therein are grouped all its mineral springs. The description of each of these springs is complete and exhaustive and, moreover, of the utmost practical utility. For example, the situation of the spring is exactly described, the railroad or other conveyance by which it is reached is mentioned, the hotel accommodations are set forth, with remarks on the scenery, analyses, and finally information as to the utility of the waters in disordered conditions. When the vast number of mineral springs within our borders is realized an appreciation of the scope of the work may be had, and, as for accuracy, an acquaintance with many of these localities enables us to find no flaw in the description.

Selected Papers on Stone, Prostate, and Other Urinary Disorders. By Reginald Harrison, F. R. C. S., Member of Council, Royal College of Surgeons, etc. London: J. & A. Churchill, 1899. Pp. 190.

The book contains a few selected articles, taken from the numerous and valuable contributions of the writer, which have appeared since the production of the fourth edition of his well-known work on *The Surgical Disorders of the Urinary Organs,* now out of print.

The text is accompanied by a hundred and eighty-seven illustrations. There are sixteen chapters, corresponding to the original papers, which have recently been carefully revised. Mr. Harrison's writings have always commanded our favorable notice in the past, and we take much interest in his latest addition to the literature of the urinary tract.

Pulmonary Tuberculosis: its Modern Prophylaxis and the Treatment in Special Institutions and at Home. Alvarenga Prize Essay of the College of Physicians at Philadelphia for the Year 1898. Revised and enlarged. By S. A. Knopf, M. D. (Paris and Bellevue, New York), Physician to the Lung Department of the New York Throat and Nose Hospital, etc. With Descriptions and Illustrations of the Most Important Sanatoria of Europe, the United States, and Canada. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xvi–17 to 343.

Those who recall a previous work by this author, upon the treatment of pulmonary tuberculosis, especially in sanatoria, will have pleasurable recollection of it, and will no doubt gladly welcome this more ambitious volume upon the same subject. The book, briefly stated, is the former work grown more complete.

Chapter i of the volume before us is historical, and chapter ii details the mortality from pulmonary tuberculosis. The third chapter brings to our notice "pathological proofs of the curability of pulmonary tuberculosis," and the fourth the communicability of the disease and its prophylaxis by individual effort. This chapter, indeed, is alarming but none the less truthful. Public prophylaxis is the title of the fifth chapter, and this is one that all hygienists should read, as is the subsequent chapter upon bovine tuberculosis. In chapter vii is detailed the preventive treatment of the disease.

The essence of the volume is comprised in the two following chapters, which deal with sanatoria and the treatment as conducted in them. These chapters are of the utmost interest and value, as is the eleventh, which plans an ideal sanatorium.

The remainder of the volume is composed of a number of brief chapters upon such subjects as aerotherapeutics, exercises, treatment by the pneumatic cabinet, hydrotherapy, and dietetics. As a rule they are not up to the standard of quality exemplified by the earlier chapters.

Bad-Nauheim. Its Springs and their Uses, with Useful Local Information and a Guide to the Environs. By J. Groedel, M. D., Medicinalrath, Physician in Bad-Nauheim. Second Edition. From the German Guide to Bad-Nauheim by O. Weiss and J. Groedel. Friedberg and Bad-Nauheim: Carl Bindernagel, 1899. Pp. viii–176.

To those who contemplate a visit to Nauheim this little volume will be invaluable. While it is adapted to the comprehension of the laity, it will afford to the medical man an introduction to the Schott treatment and to readers in general those descriptive features as to locality, access, accommodations, occupation, and expense which are ordinarily the features of the modern guide-book. In view of the recent heightened vogue of the Nauheim treatment, the appearance of this new edition is most timely.

BOOKS, ETC., RECEIVED.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second Series. Volume IV. D—Emulsions. Washington: Government Printing Office, 1899. Pp. 917.

General Pathology of the Science of the Causes, Nature, and Course of the Pathological Disturbances which Occur in the Living Subject. By Dr. Ernst Ziegler, Professor of Pathological Anatomy and of General Pathology at the University of Freiburg in Breisgau. Translated from the Ninth Revised German Edition by Dr. Theodore Dunham, Dr. Edward M. Foote, Dr. Philip H. Hiss, Jr., Dr. Walter B. James, Dr. William G. Le Boutillier, and Dr. Matthias Nicoll, Jr., of New York; Dr. B. Meade Bolton, of Philadelphia; Dr. Leonard Woolsey Bacon, Jr., Dr. John S. Ely, and Dr. R. A. McDonnell, of New Haven, Connecticut. Editor, Dr. Albert H. Buck, New York. New York: William Wood & Co., 1899. Pp. xxiii–598. [Price, $5.]

Practical Anatomy: including a Special Section on the Fundamental Principles of Anatomy. Edited by W. T. Eckley, M. D., Professor of Anatomy in the College of Physicians and Surgeons, University of Illinois, etc., and Mrs. Corinne Buford Eckley, Instructor in Anatomy in the Northwestern University Dental School, etc. With Three Hundred and Forty-seven Illustrations, many of which are in Colors. Philadelphia: P. Blakiston's Sons & Co., 1899. Pp. xii–9 to 485. [Price, $3.50.]

The Mechanics of Surgery. Comprising Detailed Descriptions, Illustrations, and Lists of the Instruments, Appliances, and Furniture Necessary in Modern Surgical Art. By Charlex Truax. Chicago, 1899. Pp. 1024.

Surgical Nursing. A Compilation of the Lectures upon Abdominal Surgery, Gynæcology, and General Surgical Conditions and Procedures, delivered to the Classes in the Training School for Nurses connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M. D., Clinical Professor of Gynæcology in the Woman's Medical College of Pennsylvania, etc. Third Edition, revised and enlarged, with Sixty-nine Illustrations. Philadelphia: P. Blakiston's Sons & Co., 1899. Pp. xv–17 to 294. [Price, $1.]

A Strange Discovery. By Charles Romyn Dake. New York: H. Ingalls Kimball, 1899. Pp. 3 to 310. [Price, $1.25.]

Transactions of the Medical Society of the State of West Virginia, held in Weston, May 17th, 18th, and 19th.

Historique des applications pratiques de la phonétique expérimentale. Par M. l'Abbé Rousselot. [Extrait de *La Parole*.]

Miscellany.

Animal Medicine.—In our issue for March 25th we published a note about Surgery among Birds. Dr. James Weir, Jr. (*Denver Medical Times*, August), in an interesting article on Animal Doctors and Animal Patients, says that the honeybee when attacked by diarrhœa (a disease to which under certain conditions it is very liable) will immediately begin to suck the astringent juices of the dogwood, poplar, wild cherry, or hickory, and will soon effect a cure of this distressing and often fatal malady. Indeed, such is the intelligence of these little creatures that, in winter, when they become sick with this disease, they will readily drink a decoction of wild-cherry bark if it is placed in the hive. When we remember that the bee's taste is even more discriminating than our own, and that it is by no means fond of bitter substances, this instance of its intelligence becomes all the more remarkable. These insects seem to be aware of the fact that filth is a source of disease; hence, when ill in winter they select a spot as far from the combs as possible, at which all of the sick members of the hive deposit their dejecta. As soon as warm weather arrives the accumulated filth is removed and the spot carefully cleansed. In summer all excrementitious matter is deposited without the hive.

The author next records remarkable observations of the way in which the crayfish deals with its parasitic leeches (*histriobdellæ*), and says that many of the higher animals have discovered and use a materia medica that is not recognized by human physicians, but one which seems to be exceedingly efficacious so far as they are concerned. Dogs will seek out and devour the long lanceolate blades of couch grass (*Triticum repens*) when they are constipated; horses and mules will eat clay when they have "scours"; cattle with the "scratches" have been seen by him to plaster hoof and joint with mud, and then to stand still until the protecting and healing coating dried out and became firm. He saw a cow not long ago break the thin ice on a pond and treat her itching joints to a mud poultice. Several travelers and hunters of big game declare that they have seen elephants in the act of plugging shot holes with moistened clay! A gentleman recently informed him that a short time ago, after a severe snow storm, he was hunting rabbits, when he saw his house cat plowing through the deep snow some distance in advance of him. He thought at first that she was out on the same business as himself—*i. e.*, rabbit hunting—but soon concluded that something of much greater importance had impelled her to abandon the warm kitchen on such a cold and inclement day.

He resolved to follow her, which he did for three miles, until she finally entered a neighbor's garden, where, after scratching in the snow, she soon uncovered a bunch of catnip. This she at once proceeded to devour! Surely a great and abiding faith in medicine must have dwelt in the bosom of this animal!

An acquaintance of the author's, a physician, spent the greater portion of last summer at a farmhouse. One day, while walking with the farmer, the latter called his attention to a sow that was confined in a pen. The farmer explained that the animal had been kicked in the abdomen by a mule and that he feared that she would die. The sow seemed to be in great pain and was continually trying to get out of the pen. The physician suggested that the door be opened; that the sow probably had peritonitis and would die anyhow. "The door was opened and immediately the sow proceeded toward a disused spring, situated some distance from her pen. This spring issued from beneath the roots of a large tree, and, the water being strongly impregnated with iron, was not used for potable purposes and was fenced about with rails.

"When the animal arrived at this fence she stopped and began to grunt, noting which her owner let down the rails. The hog walked through the gap, at once entered the shallow depression which formed the bowl or bed of the spring, and lay down in the cool water. Here she remained for five days without taking food, though corn in abundance was placed within her reach. At the end of this time she emerged from her self-elected sanitarium completely cured."

The saliva of mammals, with the single exception of man, seems to have a distinct curative action. Of course, much of the beneficial result following the continual licking of wounds by animals is due to the resulting cleanliness; yet, beyond the mere matter of cleanliness, there is an undoubted curative property in their saliva. Dogs, cats, cattle, rodents, monkeys, etc., lick their wounds when they can get at them, and soon effect cures.

It sometimes happens that animals contract wounds on their bodies which they themselves can not get at; then, as Dr. Weir has frequently observed, some good Samaritan in the shape of a fellow dog, cat, or monkey will step in and treat the wounds as though they were personal. His dog Toney is surgeon to all of his other dogs, and, what is more to the point, seems to cure his cases much more effectually and in much shorter time than does his rival in the profession—his master!

The author then records cases in which his dog Toney successfully treated two other wounded dogs, and concludes with describing how a dogfaced ape at St. Louis, in 1882, healed a sore by dressing it with sawdust, while a capuchin in 1889 treated its burned finger with a bread-and-milk poultice from its feeding platter.

A Doctor's Conditions for becoming Physician in Ordinary to Royalty.—The *Indian Lancet* for July 16th says that Princess Ferdinand, of Prussia, had a frank, good-natured, and amiable disposition, but she had inherited from Frederick the Great the habit of styling everybody "he." The following scene occurred one day. The princess, reclining on a sofa in a splendidly appointed audience chamber, was staring through a magnifying glass at Dr. Heim, who had appeared at her summons.

"Will he step near?" she said; and then continued, "I have heard a good deal of his skill and his large and increasing practice. I have accordingly decided to appoint him my physician in ordinary, and I wish to inform him of the fact myself."

"I thank your Royal Highness for the honor," replied Heim; "but I can only undertake the post under certain conditions."

The princess laughed and said:

"Conditions! I never heard of such a thing."

"Indeed," Heim enjoined; "then it is time you did."

"Well, let me hear what they are."

"The first condition," said Heim, "is that your Royal Highness will never address me as 'he.' That is quite out of date. The king never does it. I do not even style my valet 'he.' The second condition is that you do not keep me waiting so long in the anteroom as you have done to-day. I have no time to lose, and have always as much as I can get through in a day. The third is that your Royal Highness will refrain from staring so at my feet. I can not come in pumps, but only in boots, and in my ordinary walking-coat. The fourth is that you will not require me to attend you first. I must be allowed to pay my visit according to the nature of the complaint, and in the order of the position of the streets and houses. The fifth is that you will not detain me too long, and require me to talk about the political changes or the gossip of the town. I have no time for that. Lastly, the sixth is that as you are a Royal Highness you will pay me handsomely."

His conditions were most readily complied with.

The New York State Medical Association will hold its sixteenth annual meeting on October 24th, 25th, and 26th in the building of the New York Academy of Medicine. The following-named papers are to be contributed to a discussion on typhoid fever: The Advance in our Knowledge of Typhoid Fever, by Dr. Herman M. Biggs, of New York; The Bacteriology of Typhoid Fever, by Dr. W. H. Park, of New York; The Clinical Diagnosis of Typhoid Fever, by Dr. William Osler, of Baltimore; Statistics of Typhoid Fever at the Roosevelt Hospital for Ten Years, by Dr. W. H. Thomson, of New York; Typhoid Fever in the Massachusetts General Hospital during the Past Fifty Years, by Dr. Reginald Fitz, of Boston; Some Phases of Typhoid Fever as seen in Bellevue Hospital, by Dr. A. A. Smith, of New York; a paper (title not given), Dr. E. G. Janeway, of New York; Typhoid Fever in Children, by Dr. Abraham Jacobi, of New York; The Local (Non-surgical) Treatment of the Intestinal Tract in Typhoid Fever, by Dr. De Lancey Rochester, of Buffalo; The Treatment of Perforation of the Bowel in Typhoid Fever, by Dr. W. W. Keen, of Philadelphia; and Eye Complications in Typhoid Fever, by Dr. A. A. Hubbell, of Buffalo.

On the evening of the 24th, at eight o'clock, there will be a number of communications on Expert Testimony. The following-named gentlemen have agreed to be present and take part: The Hon. Willard Bartlett, Charlton T. Lewis, Esq., William A. Purrington, Esq., and Dr. Theron A. Wales.

The following miscellaneous papers are included in the preliminary programme:

The Operative Treatment of High Myopia by Removal of the Crystalline Lens, by Dr. Charles Stedman Bull, of New York; Abdominal Contusions, by Dr. George D. Stewart, of New York; Animal Products Used as Medicines, Ancient and Modern, by Dr. Thomas J. Acker, of Westchester County; The Value of Operative Treatment in Spina Bifida, by Dr. W. B. Reid, of Oneida County; A Report of a Case of Puerperal Sepsis, and What it Teaches, by Dr. Charles H. Glidden, of Herkimer County; Some Practical Experience in Asepsis and Antisepsis in Obstetrics, by Dr. Douglas Ayers, of Montgomery County; Progress of the Science and Art of Obstetrics, by Dr. Florence O. Donohue, of Onondaga County; A Brief Summary of the Indications for Operations upon the Stomach, by Dr. Max Einhorn, of New York; Subnormal Temperature, by Dr. Le Roy J. Brooks, of Chenango County; The Mechanics of Voice Production, by Dr. Dwight L. Hubbard, of New York; Report on the Work of the International Gynæcological Congress in Antwerp, August, 1899, by Dr. A. Palmer Dudley, of New York; Nervous Influence in the Production of Liver Disease, by Dr. Julius Pohlman, of Erie County; Two Operative Cases of Large Retained Hernia, by Dr. Henry Orlando Marcy, of Boston; Alcohol as a General Stimulant and Heart Tonic; its Use to the Animal Economy in Health and Disease, by Dr. Thomas J. Hillis, of New York; Some Cutaneous Manifestations of Syphilis, and Other Affections of the Skin, Illustrated by Lantern Slides, by Dr. John A. Fordyce, of New York; Cholangeiostomy, with Reports of Two Successful Cases, by Dr. Merrill Ricketts, of Cincinnati; Non-malignant Strictures of the Œsophagus; their Treatment by Retrograde Dilatation, by Dr. Henry Mann Silver, of New York; The Curability of Epilepsy, and How a Cure may be Accomplished, by Dr. William F. Spratling, of Sonyea, New York; The Sphere of Drainage in the Surgery of the Appendix, by Dr. William Stevenson MacLaren, of Litchfield, Connecticut; Sanatorium Treatment at Home for Patients Suffering from Pulmonary Tuberculosis, by Dr. S. A. Knopf, of New York; The Necessity for State Aid in Pulmonary Tuberculosis, by Dr. George W. Goler, of Monroe County; The Effects of Certain Occupations on the Pharynx, by Dr. Seymour Oppenheimer, of New York; The Necessity for Exact Evidence in Treating Scientific Subjects, by Dr. Wickes Washburn, of New York; Surgical Diagnosis, and the Time to Operate in Appendicitis, by Dr. Thomas H. Manley, of New York; Appendicitis, its Treatment from a Medical and Surgical Standpoint, by Dr. Thomas P. Scully, of Oneida County; Nose, Ear, and Throat Affections and their Relation to the General Health, by Dr. Francis J. Quinlan, of New York; Albuminuria, its Prognostic Value in Chronic Nephritis, by Dr. Charles Alling Tuttle, of New Haven, Conn.; Variola, by Dr. Gray B. Holliday, of Portsmouth, Va.; Hydrorrhœa and Hydrosalpinx, by Dr. Frederic S. Cowles, of Westbrook, Conn.; Morphinism among Physicians, by Dr. T. D. Crothers, of Hartford, Conn.; Œsophageal Stenosis, with Surgical Treatment, by Dr. James G. Hunt, of Oneida County; Brief Comments on the Materia Medica, Pharmacy, and Therapeutics of the Year ending October 1, 1899, by Dr. Edward H. Squibb, of New York.

The following-named gentlemen also have promised to contribute papers, but as yet they have not sent their titles to the committee: Dr. Henry Wandless, Dr. John A. Wyeth, Dr. Reginald H. Sayre, and Dr. Thomas L. Bennett, of New York; and Dr. Carlton C. Frederick, of Erie County.

On the evening of the 25th a reception will be given by the association, at the New York Academy of Medicine, to Dr. W. W. Keen, of Philadelphia, president of the American Medical Association, Dr. Willam Osler, of Baltimore, and Dr. Reginald Fitz, of Boston.

A Pharmacist Punished for Substitution.—The *Gazette hebdomadaire de médecine et de chirurgie* for July 27th states that a Paris pharmacist was lately fined and imprisoned for substituting cheap drugs for expensive ones in filling prescriptions.

Changes in European Faculties.—We learn from the *Wiener klinische Wochenschrift* for August 10th that Dr. Karl Ipsen, extraordinary professor, has been made ordinary professor of legal medicine in Innsbruck; that Dr. Lucae and Dr. Senator, extraordinary professors, have been made honorary ordinary professors in Berlin; that Dr. Gumprecht has been made extraordinary professor of legal medicine in Jena; that Dr. O. Bloch has been made ordinary professor of surgery in Copenhagen; and that Dr. Rossoni has been made ordinary professor of medical pathology in Rome.

Superfluous Medical Colleges.—In a newspaper article with this heading, Dr. Charles W. Alden, of Saginaw, Michigan, says: "Many a young man, who might have made his mark in mercantile pursuits, is lured by the glowing accounts sent out by the promoters of inferior schools into entering the medical profession. Knowing nothing of the requirements for a first-class physician, they fall into the trap set for them, and are turned out at the end of a brief course, spoiled for any other career, and not fitted for the one upon which they think they have entered. The country is overrun with the products of cheap colleges. Good articles, of any class, come high. Only cheap goods are cheap. Let a young man aspire, if he is fitted by nature for it, to that most arduous of all professions, that of medicine, and let him carefully count the cost. A four-years' course (after he has had preliminary training) at a first-class medical college will do for him what education can do to fit him for his work. His after success depends upon himself and his ability to follow his chosen calling. But it is an injustice to a young man (as well as to the public) to hold out inducements to enter inferior medical schools, the object of whose existence is to put money in the pockets of the home-made 'professors' who are its promoters."

A Model Camp at the Presidio.—According to the *Army and Navy Journal* for August 19th, Surgeon-General Sternberg has received from Colonel Charles R. Greenleaf, at San Francisco, a full report on the model camp for volunteers at the Presidio, California. The report says:

"This is now occupied by three regiments, the Second Oregon, First Nebraska, and Tenth Pennsylvania, and the Utah Battery, aggregating about thirty-five hundred men. The general health of the men is excellent, the sick report, exclusive of cases that were placed in the hospital immediately after arrival, being 4.6 per cent. of the effective force, and made up of trivial ailments. The fears that were entertained of serious illness, owing to the scantily clad condition of the men, have not been realized. The interior police of the camp of the Second Oregon Volunteers is not good; kitchens, dining rooms, bath houses, and lavatories are not kept tidy and clean, in spite of orders reiterated each day by the colonel of the regiment. The contrast between the work of the scavengers with that of the soldier police is very marked and fully sustains the opinion previously expressed in my reports, that the untrained soldier can not be made to do the work of a scavenger, to which I must add, nor can he be made to keep himself or his surroundings clean.

"The food supply is abundant, well prepared, cooked, and served. There is added to each one hundred of the regular rations twelve gallons and a half of milk, ten pounds of butter, and ten dozen eggs. It may truthfully be said that the food in this camp is much better in variety, quality, and preparation than is found in the average hotel anywhere in this country." The report states that the detention camp on Angel Island is so far completed that it can accommodate one regiment. The camp for recruits is occupied by about four thousand men. Colonel Greenleaf adds, "Boards of medical officers are in session for examination of the physical condition of the men who arrive, and many have been rejected; the exact percentage I have not been able to ascertain, but it is large enough to show that sufficient care is not yet exercised in the selection of recruits, especially for service in the tropics. In order that errors in diagnosis may be avoided medical officers are instructed to make careful study of all fever cases. The food of the recruits is ample in quantity, but has little variety beyond the regular ration; it is fairly well cooked but indifferently served. There is great difference in the cleanliness of this and the volunteer camps; the police work of the recruits under direction of regular officers is well and thoroughly done."

As to transports, he remarks: "All transports while in dock preparing for the voyage are carefully inspected by the medical superintendent, and immediately before sailing I also inspect them. In every instance they have been found in good condition."

Singular Diet for Man and Beast.—A physiologist lately fed a dog on the morning of an experiment; he afterward dined on the roof of the Waldorf-Astoria and in the evening ate indoors. Next!

Caution: an Office Thief.—We have received from a reputable physician in New York the following description of an office thief, and we publish it that our readers may be on their guard. The man is a mulatto, about twenty years of age. He brings a fictitious address, asking the physician to call there urgently. So soon as the physician has left, he returns and asks permission to be allowed to wait. His request being acceded to, he lays hands on anything he can and decamps. Should any physician succeed in trapping the thief in question our informant expresses his willingness to appear against him.

Leprosy in Germany.—According to the *Temps*, of Paris (cited in *Progrès médical* for August 5th), although leprosy has almost disappeared from the greater part of Germany, it is still so common in eastern Prussia that a leprosery has recently been established near Memel.

Original Communications.

FRACTURE OF THE LOWER END OF THE RADIUS.*

By CARL BECK, M. D.,
NEW YORK.

WHEN I was asked by our esteemed president to read a paper before this society I thought that I could hardly select a more popular subject than this much-disputed one. "How do you treat Colles's fracture?" is one of the questions most frequently asked of a surgeon. "Do you use long or short splints? Do you prefer the plaster-of-Paris dressing or splint, or are you fond of Dumreicher's, Roser's, Schede's, Braatz's, Gordon's, Koellicker's, Moore's, Carr's, Bond's, Middeldorpf's bilateral, or the old pistol splint of Nélaton? Are you in favor of immobilization or of early motion?"

Such are some of the questions that show that this lesion is regarded as of a constant type, uniformly characterized by the fracture of the bone about an inch above the articulation, and followed by a silver-fork-shaped deformity of the wrist.

This point of view is inadequate and erroneous. The anatomical aspects of the various forms of fracture of the lower end of the radius differ more than those of any other fracture; and it is self-evident that such variants are by no means indifferent in the treatment. For a simple fissure, for instance, and for a Y-shaped intra-articular fracture, different therapeutic means must necessarily be sought. Again, the varying relations to that near neighbor, the ulna, are of great practical importance.

In regard to this protean fracture, as in many other cases, the Röntgen rays disclose many errors. It can safely be maintained that in most cases skiagraphy has revealed conditions which were not expected and have required the original diagnosis to be more or less modified. It goes without saying that the treatment has had to be modified accordingly.

Since March, 1896, it has been my privilege, at the St. Mark's Hospital, the German Poliklinik, the West Side German Dispensary, and the Sheltering Guardian Orphan Asylum, to skiagraph all cases of fracture and suspected fracture. Among this abundant material fracture of the lower end of the radius has been found sixty-two times. That in a large number of cases fissure of the head of the ulna coexists, as reported by me first,† has been corroborated by Kahleyss.‡ Another surprising feature has been that simultaneous fracture of the styloid process of the ulna was present in the greater majority of cases, an event which was formerly supposed to be of extremely rare occurrence.

It is but natural that our views should be changed by fuller clinical experience and anatomical observation. Without undervaluing the great experience of our surgical masters before the Röntgen era, the rays furnish the most convincing proofs for the necessity of modifying their interpretations of this injury. Thus, dwelling upon old experience, as well as on information gained but recently, I have tried to classify those different forms of this much-disputed fracture which appear to be most characteristic, and accordingly demand different therapeutic measures; and if we bear in mind the fact that the fracture of the lower end of the radius is the most frequent fracture type (eighteen per cent. of all fractures), the importance of the subject will be evident at once.

As is well known, fracture of the lower end of the radius is usually caused by a fall upon the hand while in dorsal extension. The very strong ligamentum carpi volare profundum being more resistant than the spongy end of the bone, it is easily understood why, as first demonstrated by Nélaton, it never breaks; so that only a fracture can be the result. Practice shows that true dislocation of the radius at its lower end is so rare that only a few surgeons ever see it during a lifetime.

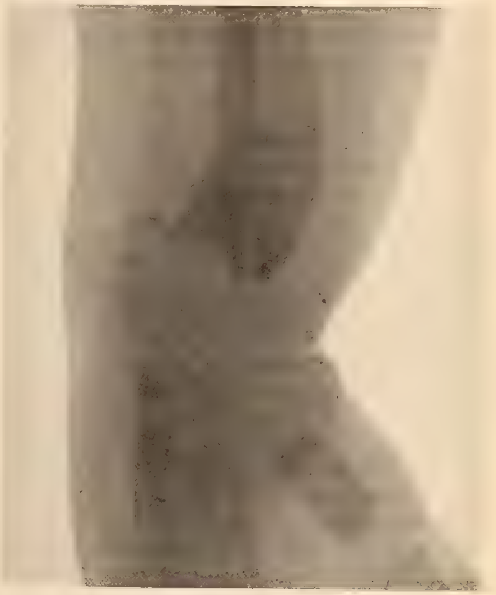

FIG. 1.—Chondro-epiphyseal separation in an infant.

In classifying the different varieties of this fracture it seems to me to be essential to distinguish epiphyseal separation, fissures (infractions), complete fractures, incomplete fractures, fractures of the lower end of the radius combined with infraction or fracture of the head of the ulna, and fractures of the lower end of the radius combined with fracture of the styloid process of the ulna. All these different varieties may be *extra-articular* as well as *intra-articular*.

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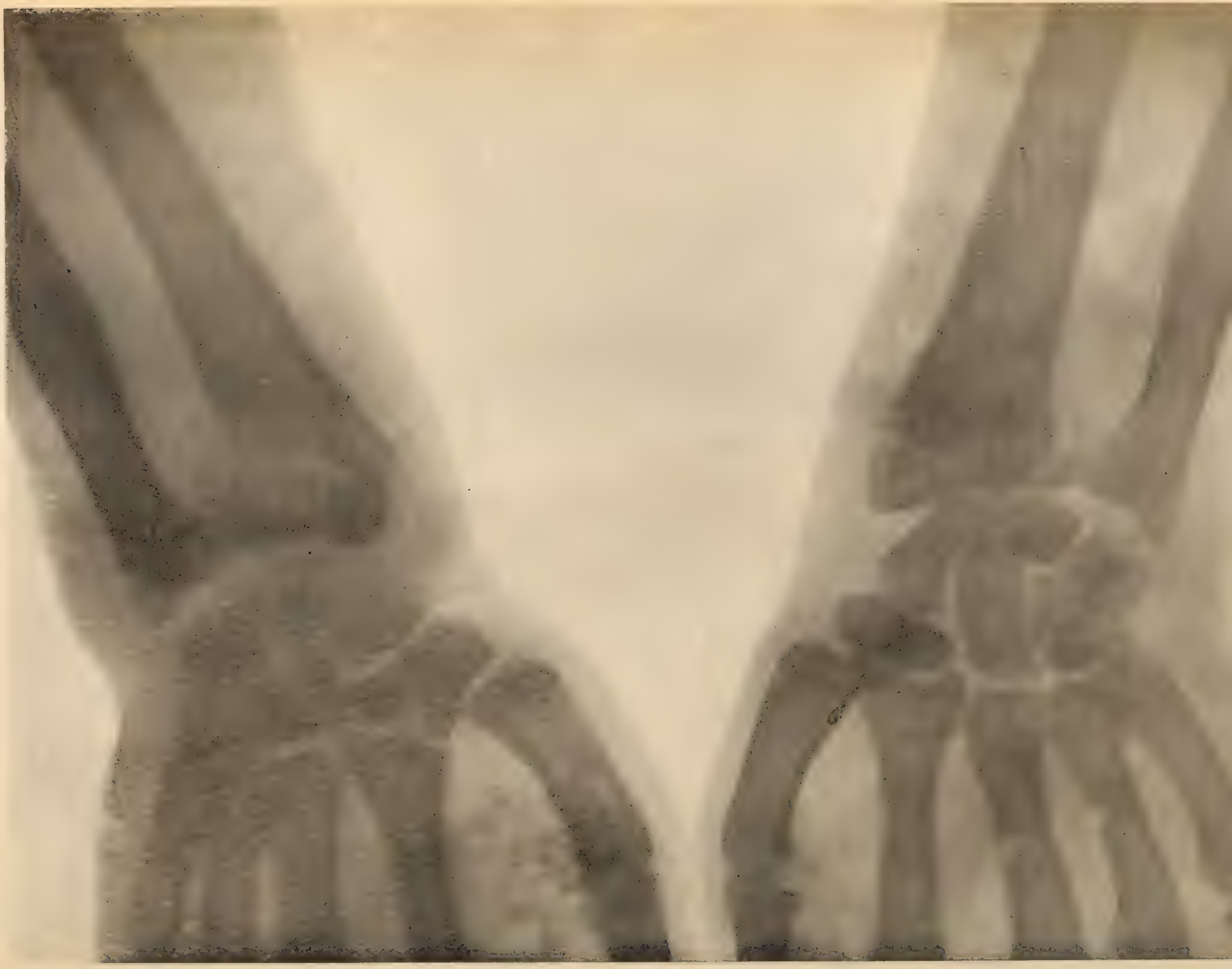
* Read before the New York County Medical Association, April 17, 1899.

† The Röntgen Rays in Surgery. *International Medical Magazine*, May, 1897.

‡ Beitrag zur Kenntniss der Fracturen am unteren Ende des Radius. *Deutsche Zeitschrift für Chirurgie*, No. 12, November, 1897.



Left. Right.

FIG. 2.—Fracture of both radii. The left hand shows considerable sideward displacement of the radial fragment toward the ulna There is also osteo-epiphyseal separation of the styloid area of the ulna. epiphyseal separation of two radial fragments. The large radial fragment is not displaced, while the small one is entirely severed. The ulna shows osteo epiphyseal separation.

Epiphyseal separation of the lower end of the radius shows the same symptoms and has to be treated on the same principles as the complete fractures. In very young children there are real *chondro-epiphyseal separations* (Fig. 1), the epiphyseal cartilage being sharply severed from the osseous end of the diaphysis; while later, at the age of between fourteen and seventeen, *osteo-epiphyseal separation* is observed, the fracture line not being limited to the epiphyseal cartilage only, but extending to the diaphysis. The latter variety occurs more frequently than the first one, which is extremely rare. (See Fig. 2, right hand.)

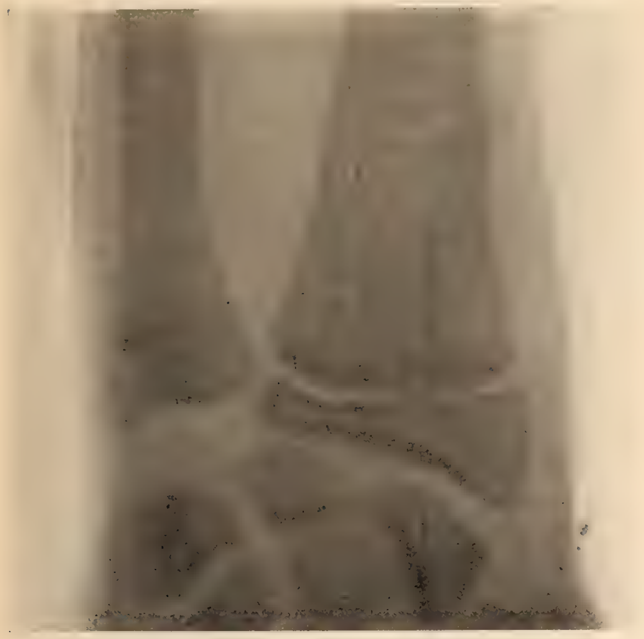


FIG. 3.—Fissure of lower end of the radius, an inch and a quarter above the epiphysis, in a boy of fourteen years. The epiphyseal cartilages show normal relations.

Fissures (infractions) are extra-articular as well as intra-articular, and are far more frequent than had been supposed before the discovery of the Röntgen rays (Fig. 3). In former times fissure was doubtless treated as distortion or contusion. No displacement being present, it is easily understood why such injuries often healed under any treatment. Sometimes these cases, not being recognized in their true light, gave a better prognosis than those which were properly diagnosticated, but in which the bones had been immobilized during too long a period, so that adhesions formed in the sheaths of the neighboring tendons; while without immobilization, the hand being constantly used, the formation of adhesions was prevented.

The line of infraction in these cases is either transverse, as in Fig. 3, or longitudinal, so that the bone appears as if divided into halves, or it is irregular in shape, generally resembling a star. Then the bone is divided into several, but still cohering, portions.

The signs are severe pain and slight swelling at the seat of infraction. Abnormal mobility, and in consequence crepitus, being absent, the diagnosis of contusion or distortion is obviously often made.

Treatment.—No displacement being present, no reduction is required. This explains why the results in these cases are nearly always good, no matter what treatment is employed. In fact, if they are treated by a quack, whose ignorance leads him to treat the injury as a sprain with an ointment, poultice, or "faith," a better result may be obtained than by the surgical neophyte who, after a most erudite diagnosis, immobilizes the joint for a long period in his zeal to keep the imaginary fragments together. Of course, no deformity will result, but adhesions are formed, and the wrist may become stiff and immobile. In such a case a patient who was not treated at all—in other words, whose hand was not immobilized—would escape serious consequences.

If the Röntgen rays prove the existence of a fissure beyond a doubt, a wire splint which is slightly bent downward is applied at the flexor side of the arm, where it reaches from the tips of the fingers to the elbow, the downward-bent portions of the splint being attached to the palm of the hand. If there is much swelling, the dressing must be kept moist with Burow's solution.

After three or four days, when the swelling has subsided, this long splint must be removed and a bracelet, consisting of a piece of mossboard, is applied instead. The width of this bracelet should be about four inches, its middle corresponding to the wrist. It immobilizes the wrist sufficiently, and at the same time it

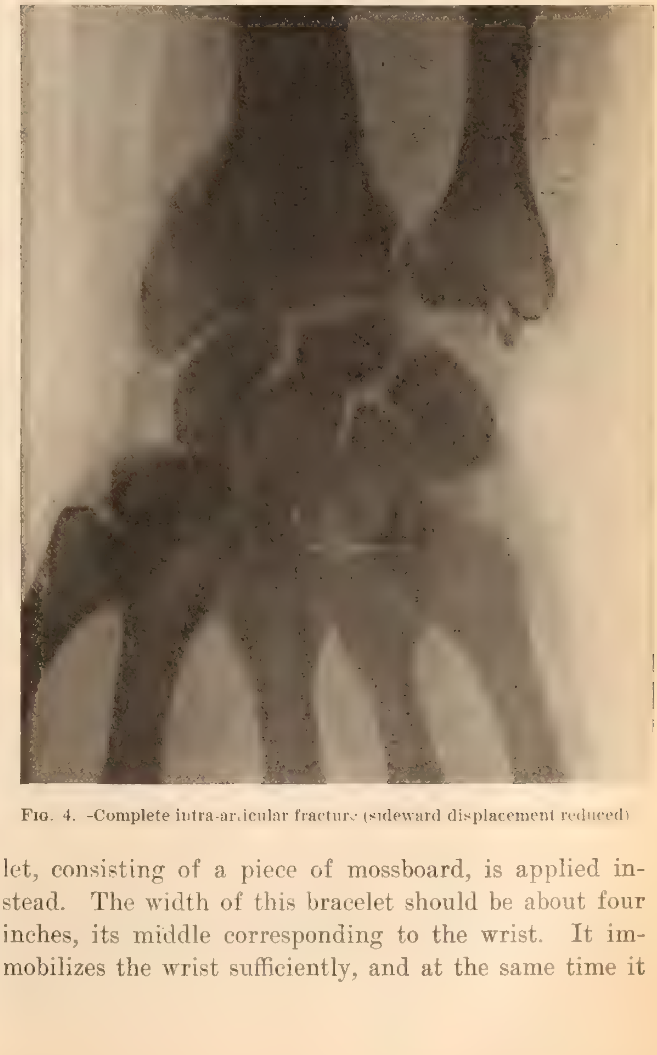


FIG. 4. -Complete intra-articular fracture (sideward displacement reduced)

permits enough motion to counteract the formation of adhesions in the sheaths of the tendons. The patient carries his hand in a sling in such a manner that the ulnar margin rests on it. Thus free motion of the hand is permitted. The patient is told to move his fingers as in playing the piano. I also find it very useful to advise the patient to grasp marbles of moderate size and to roll them around in the palm of the hand. Patients generally like to keep them in their pockets and play with them while reading or conversing or walking around. If motion is thus kept up constantly, massage treatment, as well as forcible motion, can be dispensed with.

Complete fractures, the most frequent varieties of fracture of the lower end of the radius, must be divided into intra-articular and extra-articular.

The *intra-articular* variety is the most important, as it always presupposes more or less grave injuries to the joint surfaces. The line of fracture is generally oblique (Fig. 4), but sometimes nearly longitudinal. The tendency to displacement is particularly marked in this form. Still, abnormal mobility, and crepitus accordingly, are but seldom noticeable.

As there is generally a well-marked extravasation, which may extend even over the sheaths of the tendons, palpation is rendered extremely difficult and uncertain. Massage has to be employed first in order to remove the extravasation, when sometimes the margins of the severed fragments can be grasped. Another valuable sign of fracture, deformity, caused by the displacement, may also be veiled on account of the extravasation. It goes without saying that another sign of fracture, severe local pain, is never absent.

From a consideration of all these points it becomes evident that a detailed diagnosis of this type is only possible by the aid of the Röntgen rays, which show us also just how the displaced fragments are to be reduced. Sometimes reduction can only be done properly if an anæsthetic is employed. Forcible extension for the purpose is contraindicated, because it would increase the traumatic synovitis which is always present in this variety. The severed fragments are readjusted best by gentle grasping manipulations. An adhesive-plaster pad is applied over the displaced fragment after reduction is accomplished, and moderate pressure used for a few days until slight agglutination can be expected. Otherwise the treatment is the same as that of the extra-articular variety (see below).

Among all the different types of fracture of the lower end of the radius the intra-articular is the most serious. Only the continuous control, by the aid of the Röntgen rays, of the proper situation of the fragments will give good results.

The *extra-articular* complete type is the best known among the varieties of this fracture. Having been first described by Colles, it is called Colles's fracture in this country as well as in England. It is generally transverse, and so has the character of a supracondyloid fracture. Its seat is about three quarters of an inch above the articulation, where the compact tissue of the diaphysis passes over into the cancellated spongiosa.

Signs.—Displacement always being present in this type, the deformity is most characteristic. In most cases the direction of the displacement is upward, so that there is a dorsal prominence. Then the shape of the deformed wrist resembles that of a bayonet or a fork, wherefore Colles's fracture has also been called silver-fork fracture (displacement *à la fourchette*) (Fig. 5). By thus being upwardly dislodged, the epiphyseal portion is brought into slight supination, while the diaphysis is in decided pronation. The epiphysis being in very close connection with the ulna, the latter is slightly pushed toward the ulna if the ligamentous connection between the radial fragment and the ulna remains intact. This phenomenon finds its conspicuous expression in the lateral prominence of the styloid process of the ulna.

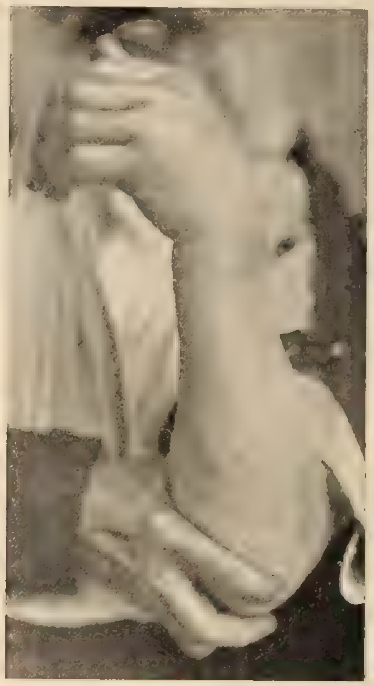


FIG. 5.—Complete extra-articular fracture of the radius (Colles's fracture), showing bayonet-shaped deformity.

Sometimes the tendency of epiphyseal displacement is toward the opposite side or downward. Then the deformity appears accordingly. In the first case the direction of the displacement was never recognized in the pre-Röntgenian era.

Abnormal mobility is always present to a greater or lesser extent. Consequently there is always crepitus.

In examining the patient, a firm support must be obtained for the injured hand, the latter being kept down on a plane by an assistant and the epiphyseal fragment being grasped. Inspection invariably detects the characteristic abnormal prominence, while palpation is often able to outline the shape of the fragment. The local pain is generally severe.

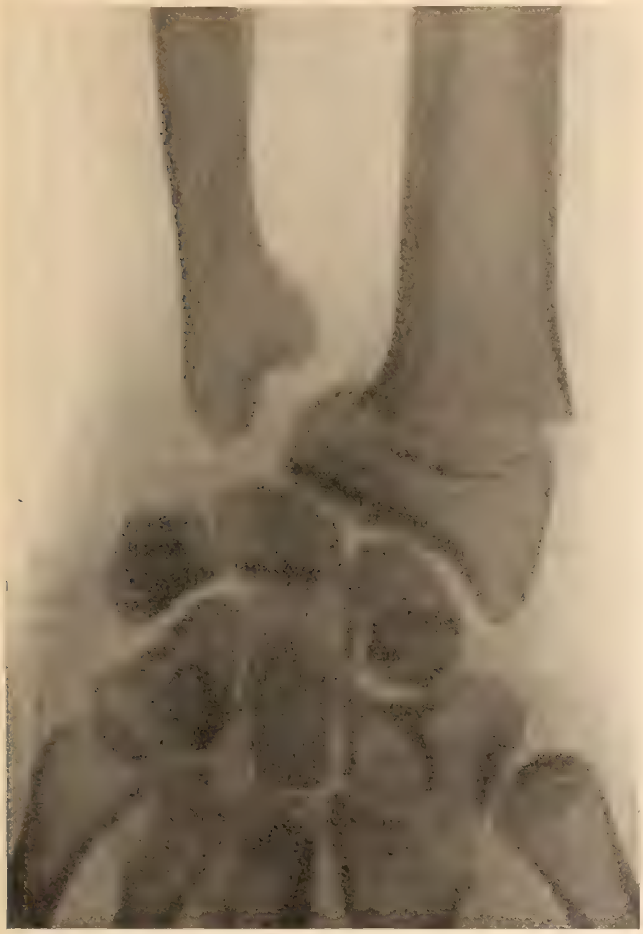


Fig. 6.—Extra-articular fracture of lower end of radius, showing inward displacement.

In the rare event of impaction of the epiphyseal end into the upper end of the radius, abnormal mobility and crepitus are absent (Fig. 6).

(To be continued.)

A TEST CASE FOR TASTE.

By NATHAN T. BEERS, Jr., M. D.,

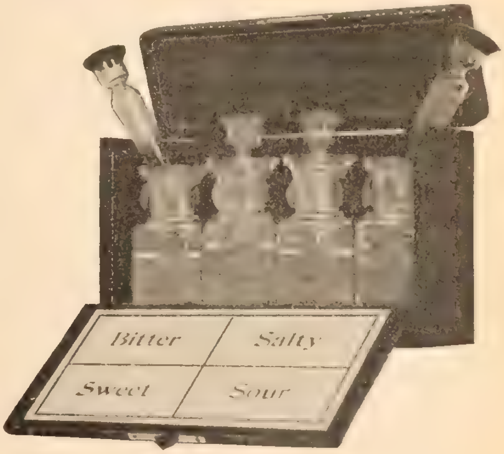
BROOKLYN.

The value to the physician of any method of examination depends not only on its theoretical correctness, but quite as much upon the ease and exactness with which it can be applied clinically.

The little test case here described presents nothing radically novel, something of the kind having been described by Goldscheider; but from its neatness, compactness, and perfection of detail it is believed that the apparatus may prove convenient and useful.

The general make-up and adaptability of the case are shown by the accompanying illustration. When filled for use, the whole weighs only thirteen ounces. The containing box is made of light mahogany, so dovetailed together and highly polished as to be durable and likewise pleasing to the eye. The four small half-ounce phials containing the test solutions are fitted with ground-glass pipette stoppers of the flat-top variety, thus making it more compendious and giving greater delicacy in dropping. The bottles are steadied for transport by polished spring clips. In the small hollow at the bottom of each bottle is pasted the name of the solution, in this way keeping the information from the person examined.

One object of the arrangement of this case is to keep the solutions free from contamination. This serves a double purpose, as hereby not only will the solutions remain much longer free from decomposition, but also we are spared any chance of carrying over infection.



This apparatus serves for the *qualitative, regional,* and approximately the *quantitative* determination of the sense of taste.*

For simple qualitative tests the mouth may be closed and the solution "smacked," but in regional and quantitative tests the tongue must remain exposed and not touched to the surrounding parts. In making regional tests the printed card which is fastened to the front of the box (and covered with transparent celluloid to prevent staining) becomes necessary. The person examined is directed to protrude the tongue while the drop is carefully applied to one or another part of the tongue, and he then can indicate which taste is appreciated by pointing on the card. Failure to detect any taste whatsoever may be indicated by a shake of the head or hand.

Quantitative measurement is here meant to indicate the exact determination of the degree of taste impairment. This is accomplished by varying the strength of the solutions through equal dilutions.

While it is not strictly the purpose of this paper to more than describe the apparatus, it may not be amiss to offer a few suggestions on the preferable solutions and methods.

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* These terms, as here applied in examination of the senses, are suggested by Dr. William Browning, at whose instigation the case was devised.

Of course, only colorless solutions are admissible. In the test solution the volatile hydrochloric acid may well be replaced by phosphoric acid, and because of less tendency to fermentation and change saccharin is preferable to sugar.

It is only the anterior two thirds of the tongue (border and tip, supplied by the chorda tympani) that we usually care to examine. If it were desired to test the faucial pillars and pharyngeal walls, the person might first be directed to assume the reclining position.

Solutions of the following strengths are suitable for general use. The practitioner, of course, may vary or change them to suit his own fancy without detracting from the value of the case:

Bitter.—Quinine sulphate, a quarter of a grain to an ounce of distilled water (about 0.05 per cent.).

Sweet.—Saccharin, one tenth of a grain to an ounce of distilled water (about 0.02 per cent.).

Sour.—Phosphoric acid (pure), three minims to an ounce of distilled water (about 0.66 per cent.).

Salty.—Sodium chloride, five grains to an ounce of distilled water (about one per cent.).

1265 Bedford Avenue.

ADENO-CARCINOMA OF THE NOSE.

REPORT OF A CASE.[*]

By JAMES E. NEWCOMB, M. D.,
ATTENDING LARYNGOLOGIST TO DEMILT DISPENSARY
AND TO THE ROOSEVELT HOSPITAL, OUT-PATIENT DEPARTMENT;
INSTRUCTOR IN LARYNGOLOGY IN CORNELL UNIVERSITY MEDICAL COLLEGE.

Two years ago, at the congress of this association held in Washington, cases of this nature were reported by Dr. Hopkins and Dr. Leland. Appended to the paper of the former, as published in the *Transactions,* are some pertinent remarks by Dr. Wright on the general topic of nasal carcinoma. Dr. Hopkins was able to collect up to the date of his paper the authentic records of twenty-three cases of the different varieties of this form and site of new growth. Of this number, three were undoubtedly adeno-carcinoma and one other doubtfully so. From the conviction that all such cases should be placed on record, I am influenced to report briefly an additional case, and to add a few words on two matters relevant to the subject—viz., cases reported during the last two years, and a modification of one of the surgical measures followed in these cases which has commended itself to my judgment.

Mrs. Caroline C., aged sixty-one years, widow, of American parentage, was referred to me by my friend and neighbor, Dr. William C. Gardner, January, 1899, on account of severe and persistent nosebleed. Her family history was negative, and her previous history was without apparent bearing on her condition when seen. In June, 1898, she began to have almost daily bleeding from the left naris. She had been subject for many years to severe colds in the head, and was inclined to attribute her troublesome symptom in some way to this fact. The bleeding always stopped of its own accord, and no operative interference had ever been necessary. On two occasons the flow had been quite severe, but on all others it had been a mere dribbling. In September she had blown from the nose what she described as a "fleshy bean," which was in all probability a polyp of the usual variety. She had lost some flesh and strength during the few preceding months, but no more than could be accounted for by the continual though slight bleeding. At times there had been a slight watery discharge with an offensive odor. None was present at the time of examination.

The latter showed a woman of large frame, but with a rather worn and debilitated appearance. Pharynx, nasopharynx, and larynx presented nothing especially noteworthy. The right naris showed commencing senile changes. The left was considerably occluded. The middle turbinate was considerably enlarged, and the mucosa covering it appeared to be in a condition of polypoid degeneration. About it were two or three fleshy proliferations, which bled rather easily upon manipulation with the probe. No glandular enlargement could be found and there were no manifestations of pressure symptoms.

Under ten per cent. cocaine a portion of one of the fleshy masses was removed and sent to Dr. Wright for examination. His report was "adeno-carcinoma." Removal was followed by a little more bleeding than is the case with an ordinary polyp, but it was easily checked, and there was no unpleasant reaction.

The patient was seen again in two or three weeks, when it was noticed that the mass had reproduced itself in the same situation. A second piece was removed as before. There had been no bleeding in the interim. The report upon the second piece was to the effect that it consisted of œdematous tissue with some newly formed and imperfect glandular structure—all of it granular and degenerate-looking—nothing definitely malignant, but certainly suspicious. Patient was seen again for the third time on March 13th of the present year. The same reproduction of tissue was noted as before, but none was removed at this time. There had been two spontaneous hæmorrhages during the week preceding this visit, one of them quite severe. The patient was made acquainted with the gravity of the situation, and the question of a radical operation was submitted fairly to her. Thus far she has been unwilling to undergo the ordeal.

She was last seen early in the present month (May, 1899). During the last few weeks the daily dribbling hæmorrhages have continued, and at times there has been a perceptibly offensive odor. The occlusion of the nostril is gradually increasing. Her general condition seems to be about as before.

I have made a careful search through current literature issued between the date of Dr. Hopkins's paper and the 1st of March of the present year and have been able to find records of the following cases;

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[*] Read before the American Laryngological Association at its twenty-first annual congress

Schotte * reports the case of a woman, aged forty-five years, who presented a growth of the left inferior turbinate with polyps of the middle turbinate on the same side; removal; microscopic diagnosis, "papillary epithelioma." This form of neoplasm is now regarded as closely allied to adenoma, and has been called by Billroth *Zottenkrebs*. A specimen is figured by Dr. Wright in the *American Text-book of Diseases of the Eye, Ear, Nose, and Throat*, and some remarks made upon this form of growth.

Thorner, of Cincinnati,† reports a case in a man of forty-seven years. The tumor grew from the left middle meatus. Dr. Thorner notes that most authorities regard pure adenoma of the nose as among the rarities. Simple polyps sometimes undergo malignant degeneration, and malignant growths may lurk behind simple polypi. Hence the stage at which the case comes under observation must be considered in any attempt to unravel the problem in each individual. Newman has quoted the opinion that two thirds of carcinomatous tumors of the nose are epitheliomatous, and the remaining third adenomatous. But from any histological point of view it must be remembered that the exact demands of modern diagnosis render earlier statistics very unreliable.

Thorner also reminds us that while we may not be able to positively deny the transformation of a primary benign tumor, a pure adenoma, into a malignant growth — adeno-carcinoma — it must be remembered that there are certain forms of adenoma which are malignant from the beginning, and should be termed "adenomata maligna," although it may well be that for a long period they can not be distinguished in anatomical details from the benign variety. Some tumors, originally innocent in type, pursue a course of extreme malignancy, and in a certain percentage of cases microscopical examination is unable to determine whether a given growth will prove innocent or malignant in its development.

Saitta ‡ mentions a case of adenoma of the left nasal fossa, the exact site of which could not be determined. It occurred in a woman of sixty years. The later history of the case was not obtainable. Microscopical examination led to a diagnosis of adenoma with incipient carcinomatous metamorphosis.

Tissier, in the course of an elaborate article upon Tumors of the Nasal Passages,# notes that cancer of the nose is very rare. He quotes the statistics of Gurit to the effect that only four cases were found out of a total of nine thousand five hundred and fifty-four cases of cancer of all organs. He can not see in an antecedent rhinitis anything more than a coincidence. Erysipelas and trauma have both been invoked as exciting causes. There is nothing, he says, but mere coincidence between the association of polyps with the malignant growth. He does not regard the epitheliomatous transformation of simple polyps as ever having been definitely proved. But he adds that what we know about the ætiology of nasal polyps explains their occurrence in a cancerous nasal fossa. He believes the ethmoidal labyrinth to be the most frequent seat of carcinoma, a fact which tends to explain its most frequent extension toward the orbit and cranial cavity. Next in frequency as to site comes the sæptum. Ganglionic infection is rare and relatively tardy. The average duration is not more than one year in cases of non-interference, but it may extend to four years. He gives quite a full bibliography, but apparently does not include any cases which are not mentioned in the table appended to Dr. Hopkins's paper.

Hellman * narrates a case which is of interest as illustrating the transformation of a hard papilloma into carcinoma. His patient (male) had been observed as far back as 1886, being at that time thirty-seven years old. The mucosa over the left middle turbinate was thickened, of yellowish-white appearance, and covered with fine mamillations. The intervening areas were apparently healthy. No enlarged glands or adhesions were present, but the growth completely occluded the naris. Removal by galvano-cautery was followed by quick recurrence. For the next nine years he was under the care of various physicians and had an annual crop of polyps removed. At the end of this time Schech removed a mass of fine papillary growths, suspecting cancer, but no examination was made. In July, 1895, Seifert removed some of the growth, which he pronounced to be hard papilloma. Two months later further masses were removed by Hellman and found to be true carcinoma.

Bronner † reports a case of tubular epithelioma removed from the nasal mucosa of the lower turbinate in a man of forty-seven years. There was a history of slight nasal obstruction and frequent hæmorrhages. Removal was effected by scissors, and the base cauterized with the galvano-cautery. Microscopical examination showed that the growth was malignant and of an epithelial type. At the periphery, beneath the mucosa, tubules with a definite lumen could be seen. There is some doubt as to whether this tumor was anything more than an adenoma. There had been no recurrence after ten years.

Martuscelli ‡ alludes to a case of tumor of the cartilaginous sæptum supposed to be a fibroma or chondrofibroma, but examination showed it to present some features of epithelioma and some of lupus. A perusal of his report does not persuade the reader that the case belongs in the category now under consideration.

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* *Jour. de méd. sci. de Lille*, 1897, i, p. 519.

† *Archiv für Laryngologie*, Bd. viii, p. 380.

‡ *Arch. ital. di laringol.*, 1897, vol. xvii, p. 157.

Ann. d. mal. de l'oreille, etc., 1898, t. xxiv, p. 1.

* *Archiv für Laryngologie*, Bd. vi, p. 173.

† *Journal of Laryngology*, 1899, vol. xiv, p. 133.

‡ *Archiv. ital. di laringol.*, 1899, vol. xiv, p. 19.

In a recent number of the *British Medical Journal,* Hunter Mackenzie, in reporting a case of sarcomatous degeneration of a nasal polyp, brings up the question of surgical trauma inflicted in the removal of polyps as a possible factor in causing such malignant degeneration. Plicque is on record as stating that "it must be remembered that it is, unhappily, pretty frequent after ablation of numerous benign polypi—adenoma or myxoma—to find new polypi appearing, composed this time of epitheliomatous tissue." While these notes of warning are not to pass unheeded, it can not be believed that the propositions they advance, especially the latter of the two, are true, except in a very small proportion of cases. Otherwise, considering the great number of cases of nasal polypi and the crude methods often employed in the removal of the latter, nasal tumors presenting malignancy would be much more frequent than is actually the case.

With the case reported in this paper there are thus five new cases to be added to those enumerated in Dr. Hopkins's table.

In regard to the surgical measures for radical interference, I beg to add a word. Up to the present time two general operative plans have been followed: First, removal of the superior maxilla with more or less of the surrounding structures, and, second, attempted starvation of the growth by shutting off its blood supply. In pursuance of the latter end the external carotid has been ligated. I have been interested to learn of a modification of this procedure, first made, I believe, by Dr. R. H. M. Dawbarn, a well-known surgeon and expert anatomist of New York. He found, upon studying the anastomotic circulation, that after simple ligation of the external carotid there were fully twenty channels through which collateral circulation could be established. With a view, therefore, of still further cutting off the blood supply, he conceived the idea of ligating, one after another, the eight branches of the external carotid, and then, as the trunk of the vessel was thus rendered useless, of resecting it entire. He has done this operation sixteen times upon eight patients, a two-weeks' interval elapsing between the two operations in each case. It has been done once or twice by others. While the period covered by this work is too short and the number of cases thus operated upon too few to allow of decisive conclusions, he believes that time will demonstrate the logic and effectiveness of this operative modification.

TRAUMATIC NEUROPSYCHOSIS.

REPORT OF A CASE.

By C. E. IDE, M. D.,
CHICAGO.

On May 11, 1896, T. Q., native of A., New York, aged fifty-one years, a farmer, married, was sent to me by his lawyer for examination. On inquiry I elicited the following: Family history good. In infancy he had measles, scarlatina, variola, pertussis, and chicken-pox. After this he was always perfectly well, being a large, powerful man, non-alcoholic, nor could I find any signs of syphilis. He denied having had either syphilis or gonorrhœa.

On October 27, 1895, Q. was driving eastward to his home from M., where he had been to make purchases. When about three miles from home, as he was driving over a bridge which spanned a culvert, his horses shied at some timbers which were piled on the south side of the road, on the east side of the culvert. The horses, wagon, and occupant were thrown into the culvert on the north side of the bridge. The bed of the culvert was dry and filled with rocks. Q. stated that he was unconscious after the fall, "came to," and started east, locomotion being exceedingly difficult. On reaching the first house, that of a friend, he shouted for assistance. Friends came out, took him in, and sent for his physician.

He stated that he suffered, after recovering from the unconsciousness, from pains all over his body and general tremor. After being seen by his physician he walked, with assistance, to his friend's buggy, and was taken home and put to bed. His whole body was cold when he arrived home, indicating a state of shock. It hurt his back so to pull off his boots that they had to be cut off.

He was in bed about a week, and during this week the following symptoms manifested themselves:

1. Cerebral: Dull occipital headache, insomnia, sensation of a band about the head, sensitiveness of scalp.
2. Mental: Morbid fears of seeing people, despondency.
3. Spinal: Pain in back and arms and down through the abdomen; tremor of hands and arms. The tremor is really a cerebral symptom, cerebral inhibitory power over the spinal reflex centres being lost.
4. Gastro-intestinal: Passage of blood and mucus from the bowels.
5. Sensory and motor: Dysphagia, imperfect vision, tinnitus.

After getting up from bed there were: 1. Cerebral: Dull, occipital headache continued, insomnia continued, vertigo, sensation of a band about the head continued, and sensitiveness of scalp over occiput continued.

2. Mental: Dislike of seeing people continued, dislike of solitude (wanted his wife with him all the time), despondency continued, easily excited, change of character shown by irritability of temper (his wife said that this was something new for him), forgetfulness, a feeling of oppression over chest with dyspnœa and melancholiac facies.

3. Spinal: Back sore, lame, and painful; some paresis of legs (he said his legs were weak, stiff, and heavy); some paresis of bladder (he said he micturated frequently, but that the "water passed slowly"); slow and feeble movements, marked hyperæsthesia of skin of back, retarded conduction (no complete anæsthesia), impaired sexual power, tremor of hands and arms, no ankle clonus, knee-jerk somewhat increased.

4. Vasomotor: Cold extremities, undue sweating, blueness of hands and feet, cardiac irritability (tachycardia), palpitation.

5. Gastro-intestinal: Constipation, anorexia, indigestion (furred tongue, foul breath), eructation of gas, pain in bowels, distention of abdomen with gas, epigastric pain.

6. Sensory and motor: Tinnitus, imperfect vision, dysphagia, photophobia, hearing overacute, concentric limitation of the visual fields (pupils reacted), conjunctiva injected, motor asthenopia, sensitiveness of eyeballs, sense of touch and perception of heat and cold much impaired—conduction slow in all (instead of complete analgesia the prick of a needle was perceived very tardily and faintly), grip was weakened, muscular sense tardy, slow and labored gait (walked with a cane).

I am sorry to say that the electrical reactions could not be tested when I examined the man.

He lost flesh and strength rapidly, and at the end of a year showed no inclination or capacity for work. Previously he had been a hard-working farmer.

The urine was concentrated, high colored, showed an abundance of urates, no albumin or casts.

I felt that pure malingering could be excluded. I did not perceive any simulation. Q. is the sort of man who has never read much, and had not thought much of medical matters, as some men do. In fact, he is an ignorant Irishman.

As for exaggeration, another resident of the same vicinity had been injured in a railroad accident a year before and had received heavy damages. This fact, I think, led Q. to desire to make every symptom count for all it was worth; but I feel sure that he was not intelligent enough to simulate any symptoms. The objective symptoms I looked for, and found those reported, without the asking of any unnecessary questions. He was observed again later, the same symptoms persisting.

At the end of seven months from the accident he was able to get into his wagon and drive to other villages. On one of these occasions the front of his wagon body gave way and he slipped down behind his horse. Bilateral inguinal hernia resulted from this, and when I examined him he told me that this resulted from his other accident. This attempt to deceive me and his tendency to exaggeration of symptoms covers this aspect of the case.

This I believe to be a true case of traumatic neuropsychosis. In the spring of 1897 Q.'s case came up in court and he lost, mainly, I believe, because he was foolish enough to swear falsely that his hernias resulted from his first accident. Our knowledge of the medicolegal aspect of these cases will readily allow us to see how this would influence the average jury against him. He had a good case, but ruined it by lying in the hope of gaining greater remuneration.

SYNECHIOTOMY OF THE STAPES FOR IMPROVING THE HEARING IN CHRONIC SUPPURATIVE OTITIS MEDIA RESIDUA.*

By EDWARD BRADFORD DENCH, M. D.,
PROFESSOR OF OTOLOGY
IN THE UNIVERSITY AND BELLEVUE HOSPITAL MEDICAL COLLEGE;
AURAL SURGEON TO THE NEW YORK EYE AND EAR INFIRMARY;
CONSULTING OTOLOGIST TO ST. LUKE'S HOSPITAL;
CONSULTING OTOLOGIST
TO THE NEW YORK ORTHOPÆDIC DISPENSARY AND HOSPITAL.

A CERTAIN number of cases come under the observation of every otologist in which a purulent inflammation of the middle ear has either undergone spontaneous cure, or where the discharge has ceased, as the result of operative interference. In a large number of these cases, however, the hearing is noticeably impaired. It is not infrequently found that in cases of long standing the patient complains of a steady deterioration in audition in the opposite ear. An examination of this organ often shows but slight evidence of middle-ear inflammation where there are decided signs of beginning labyrinthine involvement. The aural surgeon has then to deal not only with the ear which was first diseased, but with that which has become secondarily involved. My own experience has taught me that operative interference upon one side is followed by extremely beneficial results upon the opposite ear.

By the term synechiotomy I mean the division of adhesions about the stapes. Those most usually lie between the posterior crus of the ossicle and corresponding wall of the oval niche; the next most frequent location is between the crura and inferior wall of the niche. Occasionally they are found superiorly and anteriorly. The operative technique is comparatively simple. The procedure can easily be conducted under cocaine anæsthesia, or, if this is found to produce unpleasant constitutional effects, a solution of eucaine (*b*) may be used. As this latter drug causes a hyperæmia of the tissues, its application should be followed by that of a sterilized solution of suprarenal extract. This latter application will sufficiently control the engorgement caused by the eucaine to assure the operator a clear view of the field of operation. Prior to any operative procedure of this character the parts should be sterilized by thoroughly mopping out the canal and tympanum with an alcoholic solution of bichloride of mercury, of a strength of 1 to 3,000. After the field of operation has been properly prepared, the first step is to divide any adhesions which may lie between the posterior crus of the stapes and the adjacent wall of the oval niche. If a fragment of the drum membrane remains and prevents a clear view of the stapes, it is better to excise this as a primary procedure. In certain cases, owing to the position of the stapes, the ossicle can not be seen. This is particularly true where posterior adhesions are present, the ossicle being drawn backward behind the tympanic ring. Knowing the normal position of the stapes, it is a comparatively simple matter, after local anæsthesia has been thoroughly established, to divide these adhesions, although the ossicle itself may be completely hidden from view. In order to do this a sharp-pointed knife is introduced into the middle ear in the upper and posterior quadrant, close to the tympanic ring. The knife is carried inward until the bony wall of the tympanum is encountered. It is then swept downward, the point being still kept in contact with the internal tympanic wall. In this way all adhesions lying between the posterior crus of the stapes and the adjacent wall of the oval niche are divided, including the tendon of the stapedius muscle. Not infrequently, where the stapes is invisible before the procedure, it is easily seen after the incision has been made, owing to the division of the adhesions which have drawn the ossicle upward and backward. The operation itself, if carefully conducted, is absolutely painless.

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* Read before the American Laryngological, Rhinological, and Otological Society, Cincinnati, June 3, 1899.

Prior to the operation a careful functional examination should be made, and this should be repeated after each successive step, so as to note the effect upon the lower tone limit and upon the power of audition. It is not uncommon to find a marked improvement in hearing after a simple division of posterior adhesions. If this does not follow, the operator should next pass the knife beneath the crura of the stapes and the adjacent wall of the niche. Careful mobilization of the ossicle by means of the cotton-tipped probe is also advisable, both the hearing and the lower tone limit being tested from time to time to see what improvement follows the procedure.

My own records show twenty-six cases in which operation was done in this manner. Of these, improvement was shown in twenty-five, while in one case no improvement followed the operation.

The after-treatment is exceedingly simple. If the field of operation has been properly sterilized, it is only necessary to occlude the meatus with a pledget of sterilized cotton. This should be changed daily, and at the same time the meatus wiped out with a pledget of sterilized cotton. Frequently there may be a serosanguinolent discharge from the ear for from three to four days after the operation; at the end of this time the tympanum becomes dry. I usually direct the patient to keep the meatus occluded while in the open air for at least ten days after the procedure. At the end of four or five days, if there is no discharge, the ear may be left open while the patient is in the house, a cotton pledget being inserted when the patient is in the open air or in a dusty place.

In many instances the effect upon the opposite ear has been exceedingly marked; not only does the hearing improve, but the subjective noises are often relieved, and a beginning inflammation of either the labyrinth or the middle ear is effectually curtailed.

BOVINE TUBERCULOSIS IN ITS RELATION TO MAN.

By EDWARD MOORE, M. R. C. V. S.,
ALBANY.

(*Concluded from page 338.*)

Transmission from Human to Bovine.—It is of less interest to physicians whether tuberculosis is transmitted from the human to the bovine; still, if the disease is intercommunicable, as we are assured it is, then it is equally important either way. I have not been able to learn of a case where the disease was established in a cow or a herd from human sputum. Dr. Cooper Curtice says: "In 1897 I tested two hundred and forty cattle in the vicinity of Saranac Lake, New York. Every one there supposed that I would find tuberculosis in herds that fed in the fields where the consumptive patients that resort to this place take their exercise. Not one case was found. Not only this, but the herd of the sanitarium had been previously tested with like results. If tuberculosis could be transferred to cattle from human beings, it should certainly occur at such a place as Saranac Lake, a sanitarium where thousands of consumptives resort. Thus, while feeding experiments may have been interpreted as showing in some instances that infection from human to bovine were possible, it seems very well established that the infection from man to cattle does not obtain when consumptive people and healthy animals occupy positions toward each other daily which are calculated to offer every opportunity for such transmission. Dr. Theobald Smith is certainly working in the right direction; his article, A Comparative Study of Bovine Tubercle Bacilli and of Human Bacilli from Sputum, is based upon scientific investigation of a very high order, and his deductions go a long way toward the establishment of the principles promulgated in this paper. He says: "The absolute identity of tubercle bacilli infecting mammalia has been so generally assumed, and the assumption used as a basis for the enactment of sanitary measures having for their object the prevention of any transmission of tubercle bacilli from animal to man, that any one who would attempt to question this identity must be prepared to meet considerable skepticism. Taking a broad biological position, we have every reason to examine into the assumed identity of the bovine and the human bacillus." Exactly, and we shall facilitate this important work in proportion as we cease to be parrots in repeating what we have been told, and as we rise above mere assumption, and scan closely every bit of evidence, giving credence to nothing that is not warranted by scientific investigation, indefatigably pursued, to the end that truth may be established. Dr. Smith has demonstrated that human bacilli grow more vigorously from the start than do those from the bovine; that the length of the human bacillus is about two to three times that of the bovine, in cultures; also other morphological and biological characters in which they differ. More convincing are the divergencies in their physiological effects, as shown by his experiments, in which there was more rapid death of all guinea-pigs inoculated with bovine bacilli than those inoculated from human sputum. Experiments on rabbits confirmed those of the guinea-pigs. His experiments on cattle by the inoculation of bovine tubercle bacilli and human bacilli in some ten cases show "slight local lesions at the point where the syringe was inserted when human sputum bacilli were used, the disease not spreading. When the bovine bacilli were introduced there was disseminated tuberculosis of the lungs, tubercular deposits in lungs, ribs, pericardium, and diaphragm, extensive tuberculosis of nearly all the lymph glands of the thorax, and slight tuberculosis of the spleen, liver, and kidneys." These differences are so great that comment is unnecessary. Dr. Smith summarizes them in the following language: "The foregoing experiments, while they show unmistakably the close relationship existing among the various cultures studied, nevertheless justify us, if only to guide and stimulate further study, in establishing a distinctively human, or sputum, and a bovine variety of the tubercle bacillus." These modern experiments are infinitely more reliable than those so often quoted of earlier investigators, because our knowledge is greater, our facilities are better. I will presently offer some practical evidence from the everyday lives of people who are constantly exposed to the infection from bovine tuberculosis. I know the cattle, know the percentage of diseased animals in the herds, and have been aware of the existence of disease in the herds for from several to eighteen years. I have visited the people, dined with them when there were plenty of bovine bacilli on the table to satisfy any ordinary craving, and I have noted the health of those families, especially that of the children, many of them having all their lives used the products of herds largely infected, and I have not yet discovered a single case of human consumption therefrom. It is axiomatic that if transmission is common, or even possible, the farms where large numbers of infected cattle are kept are the places where the fact can be best observed; because nowhere else in the world is there so much infective material, nowhere else are the bacilli so potent, nowhere else are people so exposed to the danger, if any exists, and at these places feeding and inhalation experiments, so to speak, are constantly going on; and you will bear in mind that it is the mature cow that is oftenest affected, and it is from her that the largest amounts of milk, butter, etc., are used. A vast amount of work has been done by scientists to demonstrate whether milk from tuberculous cows whose udders were not diseased contained bacilli, and it may be conceded that it does in some cases; they are also present in milk frequently when such milk is obtained from tuberculous udders. Sternberg, in his *Manual of Bacteriology*, says: "A more common mode of infection, especially in children, is probably by way of the intestinal glands from the ingestion of milk from tuberculous cows. That infection may occur by way of the intestine has been proved by experiments upon rabbits, which developed tuberculosis when fed upon tuberculous sputum." This is the sill in the doorway of investigation over which many a bright man has fallen. It is assumed that the infant will do exactly that which rabbits and guinea-pigs have done. All the evidence I have thus far collected indicates that it does nothing of the kind. Physicians, as a rule, are not familiar with the conditions surrounding a tuberculous herd, hence I have deemed it necessary to show you one in imagination that you may the better understand the facts.

Tuberculous Herd at Home.—Picture in your mind two hundred cattle in elegant buildings of the immense size necessary to house such a family—electric light, proper ventilation, pure water, mountain air, drainage and plumbing up to date, strictest cleanliness, the best food stuffs given in balanced rations, pure-bred animals, everything first class, and all under the keen observation of experts who note details and record them—yet somewhere in the past a number of tuberculous animals were bought and added to the herd. Those diseased animals looked all right, else they would not have been purchased at high prices. And after a few years we find that twenty-five to fifty per cent. of the herd is tuberculous. Remember that cattle stand in rows in many cases. The manger is a continuous trough. The partitions between animals are low, and the cattle can reach each other on either side. They can cough up and blow sputum to a considerable distance, where it may fall on cattle to be licked off, or on food, or in water, or in feed troughs. The animals are turned out for exercise or pasture, drink at one trough, lick themselves and each other, and drool upon litter or herbage that others eat. When confined in the stable during winter, think how the dried sputum is converted into dust and wafted about by the breath blown from the animals, by their getting up, lying down, shifting feet, switching tails, the opening and shutting of doors, the sweeping, the general stirring up at the time of foddering, and you will realize that there is a series of motions night and day always operating to favor dissemination of the disease by ingestion, inhalation, and direct contact with mucous membranes. Suppose that we say of two hundred animals eighty are tuberculous; in this number are some with disease so located as not to be harmful to others, but many are diseased in organs which allow free exit to the infectious material. The attendants breathe this germ-laden atmosphere, they handle the cattle, and no doubt often convey to their nostrils and mouths sputum from the cattle. They and their families, and the proprietors and their families drink the milk, eat the cream, butter, and cheese, if the latter is made, and in some cases, though not often, they eat the flesh of calves or older animals. Here, then, is the greatest abundance of infective material—inhalation of germs before breakfast; at breakfast they are spread over the oatmeal, poured into the coffee, on the fruit, spread on the bread, taken in the glass of milk. All day the air is rich with germs, and they are served at every meal without extra charge, all furnished by the sanitary dairy company, unlimited, from the palace bovine home. Children often go into these barns, and are likewise exposed. What chances are there in cities for people to obtain infection from cattle, as compared to those just pictured in the country? Even the milk is most infective when freshly drawn from the cow, so far as bovine tuberculosis is concerned; the only way it can be more dangerous to people when served in cities and towns is through its contamination by bacilli from human consumptives. Yet your health laws all aim to protect the citizen; no one has ever suggested a law to protect farmers from infection by bovine tuberculosis. Again, the percentage of deaths from consumption is much higher in cities than in the country or in country towns. I recently wrote to some owners of herds where bovine tuberculosis has been long established and in which the percentage of diseased animals was high, and I quote the replies, omitting the addresses in some, but offer in evidence the original letters, which I trust you will inspect. In none of these places was milk sterilized, or any precaution taken to avoid infection. The butter that won the gold medal at the last Paris exposition was the product of a herd largely tuberculous. Thus we are again reminded that "all is not gold that glitters." A part of the scintillation may have been due to bacilli in this case.

The following extract is from a lady who has suffered extensive loss. Prior to the visit of the inspectors of the State board of health the farm and its herd of cattle were unequaled throughout the State.

April 4, 1899.

Dr. Edward Moore, Albany, New York:

DEAR SIR: Your favor of March 6th received, and beg you will excuse my neglect in not replying sooner, but pressure of other matters crowded it out. In my opinion the actions of the State board of health were not only absolutely unnecessary, but absolutely criminal, and had I been in a position where I could, I fear I should have talked in Albany until some one was tired. My herd numbered nearly two hundred head, young stock and all, and they butchered over a hundred cows, leaving me with a herd of young stock on my hands. Some cows, after slaughter, could not be found to have even a pinhead size of a germ, even upon microscopic examination, while with the majority, *if* they could find a germ as large as a pea that might be called a tuberculous germ, the men in charge were happy. At the time the State seized the cattle the creamery was full of butter, which was quarantined and a sample of each package sent to Albany and tested. After all the stock was killed we received a clean bill of health upon the butter. There were absolutely no foreign germs or anything detrimental in it. But what of that? For the sake of giving a few cranks a job for a while, $30,000 worth of stock was killed. The blow killed my farm, and I have never been able to pull together since. I have never known a case of human tuberculosis to arise from the use of milk from my herd, either directly or indirectly. Our cattle had better care than thousands of children, and a regular veterinary three times a week, and a consulting veterinary twice a month always, and as often as needed at other times. I will send you under separate cover a souvenir of the farm as it was. Trusting you may be able to allay such useless slaughter,

I am very truly yours.

The above one hundred diseased cattle appear to have utterly failed to transmit tuberculosis to the people surrounding them or using their products.

HOTEL BRISTOL, NAPLES, ITALY, *March 24, 1899.*

Dr. Edward Moore, Albany, New York:

DEAR SIR: In reply to your favor of the 4th inst., I am always pleased to be of any service to you or any of my old friends.

In my twenty-five years' experience with cattle I have never known any one who has had the care of cattle to have been infected with tuberculosis or consumption.

You are at liberty to use my name if you wish.

Very truly yours, JOHN MAYER.

The above letter is from a son-in-law of Mr. Havemeyer, and these two gentlemen had one of the largest and best pure-bred herds of cattle in the world, and their herd suffered extensively from tuberculosis for years. Mr. Mayer has traveled across the ocean several times for the purpose of examining the best cattle abroad and purchasing the best animals he could obtain. He made special investigation as to the freedom of various breeds from tuberculosis, and imported a lot of Swiss and Simmenthal cattle because he believed they would resist the disease better than the animals then composing their herd.

MASSACHUSETTS AGRICULTURAL COLLEGE,
VETERINARY DEPARTMENT, AMHERST, MASS, *March 7, 1899.*

Dr. Edward Moore, Albany, New York:

DEAR SIR: Your inquiry to the director of the station regarding tuberculosis has been sent to me to answer.

In so far as I know, no one has ever contracted tuberculosis from contact with the animals in our old herd, or from the use of the milk or meat from the same. The records of our students and graduates only show a very small mortality from consumption. These records are not to be relied upon to prove that any student ever contracted the disease from the use of milk from the college herd, for they have not always had it for use. Some years the boarding club, which is run by the students and not by the college management, gets its milk from the farmers in town. I send you under separate cover a bulletin giving the history of our old herd.

Very truly yours,
JAMES B. PAIGE, D. V. S.

The following letter is from a very prominent firm in another State who have maintained one of the largest herds in this country for many years. I have known that there was a good deal of tuberculosis in the cattle for sixteen years, and frequently in that time I have been at their farm and partaken of three meals a day for several days at a time. Two years ago the State veterinarian said that tuberculosis in cattle was a recent introduction into that State, yet the writer had killed many tuberculous cattle in said State before that man had graduated, or knew anything about the disease:

March 2, 1899.

My Dear Dr. Moore: I am in receipt of your favor, contents of which I carefully note. In reply I am glad to be able to say that our herd of Jerseys is in fine condition and doing most excellent work. Never better. We, by which I mean all our several families, have used the milk always from the herd very freely, and in every appearance we are, each and all, as hearty and robust as aborigines. In fact, I think we could discount them. I mean, of course, in general health and condition, not in the use of the tomahawk and scalping knife. We have employees who have been with us for years and constantly with the stock and about the stables, and never have we had a case approaching even a semblance of tuberculosis among them. Some of our men, one of them constantly employed in the stables, who have young children, have always used the milk, and I have never heard of any ill effects therefrom. In fact, judging from their activity and lung power, I should say they were remarkably robust and energetic. By the way, I do not hear so much about cattle commissions in this locality as I did once upon a time. But I recognize, of course, the necessity of being watchful in every way; yet I believe there may be great and unnecessary loss in hasty and ill-advised action. I have used the term " milk " in this letter, and I mean by this terms to include the entire dairy product, butter and cream. Very truly yours.

New Jersey Agricultural Experiment Stations,
New Brunswick, N. J , *March 2, 1899.*

Dr. Edward Moore, Albany, New York:

My Dear Sir: Your letter of the 1st inst. received. I have to say that we have issued two bulletins on tuberculosis, but regret to say that the edition of one of them, No. 101, is exhausted. I, however, send you under separate cover Bulletin No. 118. In reference to your question as to whether I have any personal knowledge of a human being contracting tuberculosis from the bovine, I have to say that I have no personal knowledge of such a transmission of the disease.

Very truly yours,
Edward B. Voorhees, *Director.*

They had a herd largely infected with tubercle, and Professor Voorhees is one of the ablest writers on agricultural subjects connected with any of our State experiment stations.

Ellerslie Stock Farm, Rhinecliff, N. Y.

Dr. Edward Moore:

Dear Sir: Replying to your letter to ex-Governor Morton, will say the fifteen cattle that were killed here in 1893 were from selections made entirely from herds in this country, and not from importations. They had been recently purchased and not bred on the place.

Since the last herd was made up there has been an occasional response on testing with tuberculin, and these animals have been invariably killed.

So far as I can find, there has never been any trouble arising from the use of our milk.

Respectfully, Charles H. Royce,
Superintendent.

Dr. Edward Moore:

Dear Sir: Replying to your inquiries in regard to the contagiousness of tuberculosis, would say that it must have been in my herd for six or seven years. Have never seen any bad effects upon any one who has used the products of the cattle or had the care of them.

Very truly yours.

This gentleman has a family of five young children who have used the products of this herd all their lives, and ninety per cent. of the milk-producing animals were infected.

Chatham, N. Y., *March 2, 1899.*

Dr. Edward Moore:

Dear Sir: None of the people who ate butter or milk from the cows that were affected with tuberculosis, which you killed, have ever been afflicted with consumption. Of course, I do not know who used the butter I sold to the stores, but I do not recollect of but one case of consumption in Chatham during the time I owned those cows, or since then, and I do not think that person ate any of my butter. If I am able to furnish you any further information I will gladly do so.

Yours truly, Albert E. Tracy.

About fifty per cent. of the herd were tuberculous.

Florham Farms, H. McK. Twombly, Proprietor.
Madison, N. J., *April 13, 1899.*

Dr. Edward Moore, Albany, New York:

Dear Sir: I can not give you any evidence either *pro* or *con.* Looking back twenty years, the length of my experience with dairy cattle, I can not recall a single person dying from consumption whose work was connected in any way with cattle or that consumed the milk.

Some four or five years ago Dr. Austin Peters told me of a case where he hoped to establish a connection between two tuberculous cows and the death of one or two children that had used the milk. At that time the evidence was not conclusive, and I never heard whether continued investigation proved anything.

I have often asked others, being greatly interested, whether such a connection had been established, but never received an affirmative reply.

Regretting that I can not be of greater service to you, I am, Very truly yours,
J. L. Hope, *Superintendent.*

Mr. Hope has had large experience with fine cattle, and was formerly superintendent for Hon. Levi P. Morton.

April 14, 1899.

Dr. Edward Moore, Albany, New York:

Dear Sir: Replying to your inquiry, I would state that two years ago my herd was examined by the Connecticut authorities and thirteen killed, this including everything that was suspicious. Prior to this the milk had been used freely by my farmer and his family, and one or more working on the place and their families, also in my own household, which, while in the country, includes a daughter and her three young children. Since that time the same persons have used the milk, cream, and butter, and, to the best of my belief, every one of them is in good health and looks as well as Mr. Crane's family, whom you know. I should say that, including Mr. Crane's family, there must have been during the summer at least ten adults and eight or ten children using the products, not including household servants. I do not know of a case of consumption or any indications of it in any of the persons referred to.

Very respectfully yours.

The above letter is from one of New York's prominent financiers, and his herd is one of the best in Connecticut, and, owing to the large percentage of diseased animals, and the number of children as well as adults who have been feeding on their products for a number of years, this evidence is exceptionally strong.

If we have succeeded in purging the bovine of responsibility for human tuberculosis we have severed the relation supposed to exist and which gave origin to the title of this paper. People everywhere will feel relieved. Cattle owners will vie with the cow-milk drinkers and the beef eaters in their appreciation of the fact that their minds are now freed from the terrible menace that has heretofore haunted them. The cattle industry will receive new impetus. Physicians will have to educate consumptives to appreciate the necessary precautions they should take, nay, they must take, for the protection of their fellow beings, and healthy people must be made to understand in what ways tuberculous subjects are dangerous to them. The imperative need is for measures for the protection of human from human. Such education will cut down the death-rate more rapidly than medical treatment. The establishment of hospitals and retreats for the treatment and isolation of consumptives is the best step physicians have yet taken for the prevention of the spread of this disease. We are now raising one foot to step up on to the firmer ground of the twentieth century, where no erring footsteps have yet been taken. In the few days left us ere we reach that new trysting place, let us bend our energies to the great task of leaving forever behind us old prejudices; theories we were taught to accept, but which have not proved trusty; deductions arrived at from experiments well intended, but which are nullified by better evidence now before us. Let us not look at things as they have been pictured, but strive to see them exactly as they are. If we have failed to convince you, we have at least pointed the way for future investigation and given the earnest of the verdict that is to follow whether you render it to-day or to-morrow.

DUST IN THE ÆTIOLOGY OF TUBERCULOSIS.

By MAX GIRSDANSKY, M.D.

Tuberculosis is justly called the scourge of the human race, for it is not only a very fatal but also one of the most widely spread maladies of the animal kingdom, and especially of the human race. Many competent observers have undertaken the laborious task of determining more or less approximately the frequency of tuberculosis; and although the results of their labors seem to vary slightly in details, the general outcome of their observations seems to be the same.

Of all the bodies examined at the morgues and hospitals of the large cities, between thirty-three and seventy-five per cent. have shown macroscopic lesions of tuberculosis. Dr. Schlenker has made a careful examination of one hundred bodies of adults and children for that purpose. He made a careful autopsy of each body, giving special attention to the lungs and cervical, bronchial, and mesenteric glands; caseous and calcareous processes were regarded as tuberculous; simple adhesions were not regarded as such. The examinations were almost entirely macroscopical. Out of the one hundred bodies thus examined, sixty-six were tuberculous.* These figures are quite significant.

As to the cause of tuberculosis all agree now. After thousands of independent experiments and investigations it has been proved that Koch's *Bacillus tuberculosis* is the essential element in the causation of tuberculosis.

As to the ways in which the bacillus gains admittance into the human body, all seem to agree as well; ordinarily three avenues are recognized:

1. *Food.*—Since tuberculosis is quite common among the vertebrata, many of which serve man as food, the milk and meat of sick animals, when used as food, become important means by which the *Bacillus tuberculosis* gains an entrance into the human body.

2. *Inheritance.*—Although ordinarily the offspring inherits only a predisposition to disease, direct inheritance doubtless may occur—more frequently from the female parent, possibly also from the male.

3. *Inhalation.*—But in the overwhelming majority of cases the tubercle bacilli gain admittance into the

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* I. T. Whittaker. *American Text-book of Applied Therapeutics*, p. 325.

human body through the organs of respiration. The frequency with which foci are met with in the lungs and bronchial glands is extraordinary indeed. The statistics of the Paris morgue show that a considerable portion of all persons dying by accident or suicide present evidence of the disease in these parts. The post-mortem statistics of hospitals show the same widespread prevalence of infection through the air-passages. Briggs reports that more than sixty per cent. of his post-mortems showed lesions of pulmonary tuberculosis.† These and many other similar facts tend to show that inhalation is *the* road of all by which the bacilli enter the system. But bacilli do not enter the lungs of the well directly from the lungs of the sick; for, as we all know, the breath of tuberculous patients is not infective. The road is rather an indirect one: Patients with moderate or advanced pulmonary tuberculosis throw off daily a large amount of sputum containing millions, even billions, of bacilli. This sputum, thrown indiscriminately upon the floor, sidewalk, or street, is rapidly dried, pulverized, and converted into dust, to the minute particles of which countless numbers of bacilli adhere, thereby becoming part of the air we all inhale, and thus getting free and easy access to the pulmonary system.

It is necessary to emphasize, however, this well-known fact that the sputum is harmless until it is dried, pulverized, and disseminated into the air; then, and only then, does the sputum of the sick become a means of transmitting the deadly germs from the sick to the well. It is therefore self-evident that everything tending to produce and maintain dust in the air thereby tends also to maintain the fearful spread of tuberculosis; not to mention also probably that of scarlatina, measles, influenza, and many other infectious diseases.

It is ordinarily supposed that dust in our city air is produced by the friction offered by the footsteps of man and animal, by the wheels of vehicles, and by the action of the wind.

I wish to call your attention to one agent whose grewsome power in this direction is greater than that of the other agents combined. I mean the broom. The foot is an easy, thoughtless affair. The broom is applied with a great deal of attention, intention, and vigor. The footstep has its habitual narrow path, and seldom roams out of it. The broom scorns negligence, and pries eagerly into each forgotten corner. The aimless footstep is put down carelessly and may be insufficient to break up the crust formed by the pathological sputum. The action of the wind is weak, uncertain, and frequently tempered by the inhibitory influence of the shower. But when the dutiful housewife comes out in the morning with her sceptre of power—her broom—to do the housecleaning, cleanliness becomes the watchword, and thoroughness the motto of the hour. She enters upon the field with energy worthy of a better purpose. With her broom she rubs and scrapes, and scratches and scratches, and rubs and scrapes again until all noxious matter has been loosened, pulverized, and gathered out of its hiding place. She whips and grates and brushes until the room is filled with a cloud of dust; not an inch of floor is left undisturbed, not a corner unswept.

After an hour's such exercise she has cleaned her room and gathered the dirt out of the house. But the dirt that she has actually cleaned out of the house is of the more innocent variety: pieces of fruit, pieces of bread and meat, large or moist particles of sand, wear and tear of clothes and furniture, pieces of paper, etc. The really noxious variety, the dried sputa, contents of the nasal and rectal cavities, all waste products of man or animal, skin shed by convalescents or scarlet and similar fevers—these have been broken up into the finest particles, thoroughly pulverized, and again and again flogged violently into the air, to be inhaled by this very industrious house-cleaner, by her children, and the members of her household. The clouds of dust her broom has raised are so thick that she feels the necessity to protect her hair and to cover her clothes and furniture; she does not give a thought to her lungs: perhaps she is not aware of having any.

The cleaning of the carpet, of the mat, and the hall rugs comes next. These are thoroughly shaken, hung out from the windows, from the lines, occasionally waved in the street or upon the roof; dusted, shaken, and beaten until they are rid of all their dirt; until all this has been converted into fine dust flogged into the air, in which it is kept perpetually floating until it reaches its permanent destination—the bronchial mucous membrane of the passer-by.

Thus the process of sweeping, although apparently accomplishing its purpose, in reality serves as the most effectual means of spreading tuberculosis, the scourge of the age.

But the sweeping is not the function of the housewife or servant only. The firmest particles of wear and tear of the household have been thrown out on the street, the dust entered many a bronchial tube, but a part of it has settled upon the furniture, walls, and ceiling of the house; there, however, not to remain for a very long period, for the dusting hour will arrive—all will be stirred up, all dust will be disseminated, and all bacilli floating again, until as many of them as possible will safely settle in some trachea, bronchus, bronchiole, or pulmonary vesicle. In the afternoon or next day this process is repeated.

That part of the dirt that has been removed to the street, and that part of the dust that has been allowed to escape through the opened windows, has entered into the domain of another knight of the broom—the janitor. He exhibits, if anything, certainly not less zeal than the housewife. The house dirt and dust that has mingled with the particular dirt of the sidewalk—viz., the expectoration of the passer-by and the excretions of domestic animals—is again rubbed and brushed and puffed into the air; then, again, the bacilli are offered an easy chance to enter the lungs of the speeding breadwinner or school-going innocents.

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* Osler. *The Principles and Practice of Medicine*, second edition, p. 209.

Nor is this the end of the story. Removed from the sidewalk, the dust and dirt, in emerging from the domain of the janitor, have entered into the kingdom of a new potentate—the street sweeper. This functionary, in possession of a broom of monstrous dimensions, has dust-producing as his special duty; he sweeps the dirt into small heaps, the small ones into the larger ones, the larger ones he throws into barrels, from the barrels he throws the dust into wagons, from the wagons it is thrown into boats, from the boats it is thrown into the sea. Each of these performances is carried out with such violence that a cloud of dust marks the wake of the street-cleaning functionary. At the pier where the wagons empty their contents into the float, the houses, yards away, are covered with a dust film so thick as to enable one to read letters traced with the finger upon the wall.

The mode of cleaning the street and house, especially if the latter is carpet-covered, by sweeping, as commonly practised, accomplishes the following:

1. The broom breaks up all dried sputum, excretions of the nasal and rectal cavities, and excretions of domestic animals; it frees the micro-organisms contained in them, and thereby transmutes these low organisms from an innocuous, latent, potential state into a nascent, kinetic, virulent condition.

2. Having been the main instrument for the consummation of this change, the broom, by reason of its frequent use, becomes also the main, almost the only, instrument by which the bacteria-laden dust is kept perpetually floating in the air, stirring it up again and again as soon as it settles through the action of gravity.

3. It keeps constantly floating in the air the skin shed by convalescents of scarlatina, measles, and similar conditions, and is probably performing a similar function in seventy-five per cent. of all known infectious diseases.

It has been stated repeatedly that even in the high mountainous regions proverbially free from tuberculosis, this pest has been introduced with the spread of civilization in these regions. Thus the late A. L. Loomis states: "Mountains and elevated districts were thought to be beneficial on account of their elevation alone. But recent investigations show that the absence of atmospheric impurities is the chief element, and that the purity of the air is the chief reason that elevated regions are so beneficial in phthisis." *

4. And again, "Elevation was regarded also as the cause of this immunity from phthisis. This theory was disproved by the fact that whenever the inhabitants of elevated regions engaged in manufacturing pursuits which confined them in unwholesome air, phthisis was frequently developed." *

The following is from Freudenthal: †

"I should like here to explain my views in regard to the supposed immunity of certain places against tuberculosis, of which we formerly heard so much. . . . With the increase in factories and workshops, together with the confinement in close quarters of large numbers of people, tuberculosis sets in without fail, whether this be at Dawson, Goerbersdorf, or Denver; as a striking example permit me to mention Chaux-de-Fonds, a small place in Switzerland, where tuberculosis is responsible for as many deaths in a thousand as it is in Berlin. Yet Chaux-de-Fonds is situated three thousand feet above the sea, in the midst of extremely healthy surroundings, in the Jura Mountains. The prevalence of tuberculosis here is due to the watch factories, for which it is celebrated."

Thus we see that tuberculosis advances in step with civilization.

It is, of course, understood that from this viewpoint the word civilization stands for no one single condition, but rather for a combination of conditions of overcrowding, wretchedness, and all the unhygienic surroundings of the laboring class. I would, however, suggest that the broom, and to an extent also the carpet, ought to come in for a full share of the responsibility of tuberculosis under civilization as thus defined.

If sixty per cent. of all men die of pulmonary tuberculosis (Biggs)—if the main, almost the only, cause of pulmonary tuberculosis is bacilli-laden dust, and the broom by far the main cause for such dust, the broom is evidently responsible for more deaths than the sword ever was.

The inevitable consequences of the above are:

1. That the broom, far from serving any hygienic purpose, is the cause of the maintenance of organic dust in the atmosphere of the large cities of the world, and as such is the most important cause of the existence and spread of tuberculosis, probably also of various other infectious diseases, and should therefore be abolished.

2. That the carpet is an unhygienic article serving as a fine breeding ground for vegetable parasites, necessitating the use of the broom and the duster, and thereby becoming a reason for the existence of organic dust.

3. That the only proper and safe way of procuring cleanliness of the floors and streets of our large cities is by the free use of water as a cleansing agent in the shape of showers, sprinkling wagons, hose, mops, etc.

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* *A Text-book of Practical Medicine*, eighth edition, pp. 232, 233.

* Supplement to Ziemssen's *Cyclopædia*, pp. 329, 330.

† *New York Medical Journal*, March 26, 1898.

4. That all floors and floor coverings of the home and the street ought to be so constructed as to facilitate the free use of water in the shape of shower or mop as a means of procuring cleanliness.

And there is no way out of these conclusions.

If all the work, research, and investigation gone through by a host of scientists during a whole generation point to dust as the practical cause of tuberculosis as well as of other infectious diseases—if science has proved that dust is the cause of more deaths than any other single condition, earthquakes, floods, and wars not excepted—are we to allow the deadly dust producers to parade under the usurped name of hygienic implements? Are we to allow the murderous street brooming to go under the name of street cleaning unchallenged? Or is it not rather our duty to issue a warning to the public to call things by their right names, to point out the real rôle of the broom in unmistakable terms, and to show up the enormous danger to public health that arises from mistaken ideas of cleanliness, and the fearful slaughter produced by the idiotic methods used for carrying out such mistaken ideas?

A CASE OF
TETANUS TREATED WITH CARBOLIC ACID.

By D. FLAVEL WOODS, M.D.,
PHYSICIAN TO THE PRESBYTERIAN HOSPITAL, PHILADELPHIA.

Having seen many cases of this dreadful nervous disorder treated in many different ways in hospital and private practice, I cite this case and its treatment as the only one I have ever seen recover.

On May 24th I was called to see a boy, aged about twelve years, who had trod ten days before on a sharp nail, which penetrated about the middle of the sole or plantar part of the foot to the extent of about half an inch. The foot was poulticed, and at night ham fat was applied. This I learned from the mother of the boy. The lad told me his foot felt quite numb at the time of the accident and gave him considerable pain.

The wound gave rise to little further disturbance, and no doctor was called until several days after the accident. Then the wound was apparently healed.

When I first saw him there was stiffness of the muscles of the neck and spine; he complained of sore throat and swallowed even water with great difficulty. Aside from general lassitude the day before, I learned that these were his first symptoms, and recognizing them as grave, I advised that he be sent to a hospital. To this his parents objected, his mother crying out that "she now knew he had lockjaw, and would prefer that he should die at home."

Intense rigidity extended along the neck, back, chest, abdomen, and extremities. When attempting to drink, the trismus was increased. The muscular rigidity, which at first was not constant, soon assumed a general character, and his jaws were tightly locked. As the disease advanced the reflex excitability was increased—the slightest touch, the least noise, as the shutting of a door, or a slight current of air was enough to bring on a paroxysm. Perspiration was profuse, increased with each paroxysm of cramp, and the pain also was increased at that time. The expression of the face was indicative of extreme agony, and the function of respiration was seriously involved. The muscles of deglutition were so rigid that it was impossible for him to swallow until the third day. Frothy mucus ran out of his mouth. Dyspnœa and opisthotonus came on with the first spasm and remained until the system relaxed. The temperature was never above 102° F., pulse never above 86. Bowels constipated; urine scanty, high-colored, and with an excess of phosphates. He was sleepless until the third day. Throughout the whole course of the attack his mind was perfectly clear.

Treatment.—The place of injury was freely opened and a dark tarry substance (altered blood) was scraped out. The foot was then soaked in a weak solution of carbolic acid and warm water for about half an hour.

As it was impossible for him to swallow, ten minims of a ten-per-cent. solution of carbolic acid were used hypodermically; fifteen minutes after the first, twenty minims were injected; fifteen minutes after the second, thirty minims were used. Thirty minims were continued throughout the day every half hour with half a grain of cannabis indica; at night the cannabis indica was discontinued, the pupils of his eyes being at this time very contracted. The carbolic-acid solution was administered through the night, according to circumstances. If comparatively quiet, he was not disturbed, but when the interval was prolonged the dose was increased to a drachm hypodermically. There was considerable amelioration in the spasms on the second day, and the solution of carbolic acid was only administered hypodermically every two hours in half-drachm doses of a ten-per-cent. solution. This treatment was kept up until the morning of the third day, when he could swallow. Then a drachm of the solution in glycerin was administered every three hours until the spasms ceased. After the spasms ceased a drachm three times a day was given, and gradually diminished to half a drachm three times a day and kept up until all rigidity had left. Up to the third day the patient was nourished through the bowels with milk, eggs, and brandy. On the afternoon of the third day he slept for two hours, seemed refreshed, and said he felt better. From this time on he continued to improve, but the rigidity did not entirely leave him for three weeks after the attack. When he began to relax, his bowels were freely moved and his kidneys acted profusely. His urine soon after the carbolic acid was administered had the characteristic odor of the drug, and the smoky appearance was manifest on the second day. No perceptible irritation of the kidneys or bladder followed, and no permanent pernicious sequelæ. He was weak and generally debilitated by the attack, but soon recuperated.

He is now to all appearances perfectly well.

From this case I learn that carbolic acid in tetanus is effective only in large and heroic doses. Under these circumstances it is surprising how much the system will bear. I believe that carbolic acid acts as an antitoxine and is much more reliable than any serum which I have seen tried. If given boldly as early as possible, so that the system may be quickly and completely saturated, its antiseptic influence will be manifest on the blood, and I believe there is great hope of this agent becoming a great boon to humanity in the cure of this distressing and alarming malady.

Shortly after the convalescence of this boy I learned through Captain Wolcott, civil engineer of the United States navy at League Island, of a case of tetanus in one of their horses, cured by the use of carbolic acid, on my suggestion of that treatment.

I append the report of the case by Dr. H. B. Cox, veterinary surgeon:

The following is a report of a bay gelding, six years old, owned by the government, stationed at League Island Navy Yard, Philadelphia, Pennsylvania:

My attention was called to the horse, which I saw was suffering from the above-mentioned disease, with all the characteristic symptoms; a few of the most prominent I will describe as follows: The muscles of the head and neck were so rigid that movement of the head to either side was impossible; the nose elevated and poked out; the nostrils dilated; the visible mucous membrane reddened and congested; ears stiff and erect; the membrana nictitans drawn back, almost covering the eye; the jaws almost locked, only able to pry them open about an inch; the muscles of the croup and back hard and stiff; legs stiff and stood out like four posts; almost impossible to raise the feet far enough to prevent stumbling. The patient also had frequent paroxysms, especially when excited; tail raised erect and stiff; pulse hard and frequent; respiration hurried; temperature high. The cause can be traced to the docking of the tail. The symptms were so pronounced that recovery seemed impossible.

I finally decided to give the carbolic-acid treatment a fair trial, the result of which has proved very satisfactory.

The following is a daily report of the case: The external treatment consisted of cleansing the wound thoroughly three times daily with a fifteen-per-cent. solution of carbolic acid. The internal treatment: I prescribed six drachms of a ten-per-cent. solution every three hours, gradually increasing the dose until I reached an ounce and a half of ten-per-cent. solution every three hours, until the stiffness began to disappear. Then I gradually decreased the dose.

I will proceed with the daily condition of the patient.

Date.	Temperature.	Respiration.	Pulse.	Dose.
June 30	103°	30	65	6 drachms.
July 1	102½°	28	64	6 drachms.
July 2	102°	26	..	8 drachms.
July 3	....	25	62	9 drachms.
July 4	101°	24	60	10 drachms.
July 5	101°	23	58	
July 6	100½°	22	54	11 drachms.
July 7	100½°	22	54	
July 8	....	..	..	12 drachms.
July 9	....	21		
July 10	....	..	52	
July 11	100¼°			
July 12				
July 13				
July 14	....	..	51 steady	
July 15				
July 16				
July 17				
July 18	Normal.	20	50	
July 19	Normal.	20	50	1½ ounce.
July 20				
July 21	....	19	49	

July 22d.—The patient's jaws have unlocked completely and he is able to take his three meals every day; also rests easily through the night; lies down and gets up without the slightest difficulty—in fact, the horse has fully recovered, with the exception of a slight stiffness due to standing on plank floor, which will leave him in a few days.

I highly recommend this treatment, and am pleased to know we have found something that will overcome the dreaded disease of tetanus.

1501 Spruce Street.

Therapeutical Notes.

A Mixture for Incontinence of Urine and of Fæces in General Paralysis.—M. Athanassio (*Indépendance médicale*, August 16th) recommends the following:

℞ Tartrate of iron and potassium	15 grains;
Tincture of nux vomica...	15 to 20 drops;
Decoction of rhatany, Decoction of cinchona,	of each, 1,500 grains.

M. The mixture to be taken a soupspoonful at a time in the course of forty-eight hours.

Citrophene.—Boehm, of Barmen (*Deutsche Medizinal-Zeitung*, July 31st), says of this compound of phenetidine and citric acid that it is rapidly decomposed by the gastric juice, as is shown by the fact that paraphenetidine may be detected in the urine in twenty minutes after the drug is taken. On account of its agreeable taste and its freedom from ill effects, he has used it instead of such other analgetics and antipyretics as antipyrine and acetanilide, giving from seven to fifteen grains twice or three times a day to adults, and from a grain and a half to four grains and a half to children.

For Painful Dysmenorrhœa.—The *Progrès médical* for August 12th, citing *Presse médicale*, attributes the following to Dalché:

℞ Ergotine	1½	grain;
Sulphate of quinine	$\frac{30}{100}$	"
Powdered digitalis leaves	$\frac{15}{100}$	"
Powdered coca	q. s.	

M.

For one pilule. From three to five may be taken daily.

Confection of Cinchona.—*Riforma medica* for August 5th attributes the following formula to Brissemoret:

℞ Caffeine	45	grains;
Extract of cinchona	187½	"
Citric acid	30	"
Tincture of vanilla	7½	"
Alcoholate of citron peel	30	"
Rum	600	"
Syrup	2,250	"
Gelatin	150	"
Glycerin	600	"
Water	1,350	"

M. Take as much as will lie on the point of a knife (*sic*) daily.

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NEW YORK, SATURDAY, SEPTEMBER 9, 1899.

THE PLEA OF INSANITY IN CRIMINAL CASES.

IN the *Journal* for July 8th, in an article entitled The Insanity Problem, we said: "There should be no known lunatics at large, however 'harmless' they may be rated. The public hardly seems to appreciate the danger it is in from the outbursts of insane propensities, and this, it is to be suspected, is in great measure due to the community's sense of self-preservation having been drowned in a sentimentality that has been aroused and is continually nourished by harrowing tales of sane persons wrongfully immured in asylums and of the cruelties alleged to be practised in such institutions. Nevertheless, the danger is great."

This contention has been ably upheld in the writings of Dr. H. E. Allison, the medical superintendent of that one of the New York State lunatic asylums which is known as the Matteawan State Hospital, an institution to which the criminal insane are largely committed. For a most forcible argument in favor of the position we would refer the reader to an abstract of one of Dr. Allison's articles (published in the April number of the *American Journal of Insanity*) which we printed in our issue for June 10th. The July number of the *Albany Medical Annals* contains another example of Dr. Allison's able presentation of the subject, being his contribution to a discussion of it by the National Prison Association of the United States at a meeting held in Indianapolis some ten months ago. In this article the author reaffirms his conviction that the insane with propensities to commit acts which society regards as criminal, while irresponsible, should be recognized as insane and committed to an institution for the criminal insane, there to remain, not for some period prescribed by the law on the basis of the offense, but until it is clear that they may be set at large or transferred to other surveillance without danger to the community.

While Dr. Allison concedes that the plea of insanity is sometimes resorted to dishonestly and as a mere subterfuge in behalf of sane villains, he thinks that, on the whole, the plea ought to be set up oftener than it is, for, if it was shown to be well founded, the individual, although acquitted of criminal responsibility, would be committed to proper care, and society would be protected rather than endangered, as it would be by his release after a specified term of penal imprisonment. The popular contempt for the plea is no doubt based largely on distrust as to its genuineness, but, except in a small percentage of doubtful cases, this can always be ascertained to the satisfaction of the court and the jury, although not most readily by the "hypothetical question" that is so dear to the criminal pettifogger. The popular opposition to the plea as a bar to execution or penal servitude is probably due in great measure also to the fear that its admission may deprive the trial and its result of the deterrent influence that the condign punishment of offenses is supposed to exert and doubtless does exert upon sane persons of vicious and criminal tendencies; in other words, the fear that other offenses may be encouraged if one offender is sent to an asylum rather than to the gallows or a prison. This is a practical view of the matter, one wholly free from unfounded distrust on the one hand and from morbid sentiment on the other; but it is met by the inevitable conclusion to be drawn from the facts presented by Dr. Allison and others to the effect that the community is protected against an insane criminal only for a time if he is sentenced to a specified term in prison, but is left defenseless against him on his release. We repeat, "there should be no known lunatics at large."

THE VALUE OF A MEDICAL DEFENSE UNION.

WE have referred several times of late to the great advantages of a medical defense union for the protection of the members of the profession against blackmail, charges of professional incompetence, etc. A case which has recently occurred in England emphasizes the value of such a league in so marked a manner that we can not refrain from laying the gist of it before our readers.

Dr. Kidd, a medical man in practice at Bromsgrove, whose diplomas of M. B. London and F. R. C. S. England mark him at once as a physician of standing, was the medical officer of the Bromsgrove sanitary district, and also of the joint isolation hospital established for the three sanitary districts of Bromsgrove, Redditch, and Droitwich. On September 17, 1898, a member of the Bromsgrove urban district council made a public allegation, according to the *Lancet* for August 12th, that a "patient was in the hospital one week and three days and never saw the doctor once, and all the six weeks and three days she was there she never had one drop of medicine." Further, according to the *Lancet*, it was alleged that, although a patient (a little girl) was in great agony for two days, the medical officer did not see her, and that she was frightened by a threat of being put into "boiling blankets" to make her keep quiet in bed; that the medical officer actually ordered this treatment, and that the girl died while undergoing it. Moreover, it was stated that "men, women, youths, and boys and girls had to eat, drink, lie, and sleep all in one room"; also that the hospital was so badly constructed that rain came into the building, and that the wind could be felt by the patients as they lay in bed.

The facts of these allegations appear to have been that the patient in the first case "was admitted (into hospital) at a late stage of the disease, that convalescence was not interrupted, that she required no medicine, that it was not true that Dr. Kidd did not see her for ten days after her admission, and, further, it was shown that she was the defendant's aunt. The little girl was niece to the woman already mentioned. Nephritis set in as a complication of scarlet fever and she died from uræmia. A hot-pack was ordered as a means of treatment—hence the statement about 'boiling blankets'—but the disease was too far advanced for it to be of any avail. It was also proved that Dr. Kidd was indefatigable in his attendance on the patients. The hospital was only a temporary one—a hospital marquee tent with double canvas walls. It was well ventilated, but when there was heavy rain the water trickled down in one or two places, the beds, however, being carefully removed from the damp. The patients were mostly young children, but while the woman already referred to was an inmate there were two boys as patients, about fifteen or sixteen years old. They occupied the same large tent, but their beds were thoroughly screened off from the other beds and Dr. Kidd had heard no complaints."

It is easy to see how such charges may have arisen without malicious intent, and it is still more easy to comprehend how they might form a serious basis for malicious persecution.

It so happened that, according to Dr. Kidd's letter published in the same number of the *Lancet*, he became a member of the Medical Defense Union five years previously, little thinking that he was himself likely to become involved in litigation. But suddenly there came upon him these damaging charges of gross professional incompetence and negligence; charges which, as he says, he would certainly have been unable to deal with adequately on his own slender resources. He sent the facts to the secretary of the Medical Defense Union, and at once received a most careful and exhaustive letter of advice from their attorney, followed by an eminent counsel's opinion. The union subsequently took the case off his hands, bringing an action for libel against the author of the charges, entirely vindicating Dr. Kidd's character, disproving the allegations in detail, and obtaining for Dr. Kidd a verdict for £150, the foreman of the jury taking care to explain that it was only the defendant's pecuniary position which prevented them from assessing much heavier damages against him.

It is not only the cost of the proceedings, when an incriminated physician has either to defend himself against malicious or otherwise unjust action, or to vindicate his character against slanderous statements by bringing suit himself against their author—a cost which must inevitably be considerable even though he gain his case; but it is the wear and tear, the sleepless nights, the worry and anxiety, the unfitness for good work which comes from being in a state of tension, which are also saved to him by his membership in such a union. On this point Dr. Kidd says:

"During the six months over which the action was pending, the whole of the work connected with the case was taken off my hands by the solicitor to the union without the slightest trouble to myself, and I need scarcely have been aware that I was involved in any proceedings at all; but the work was being done nevertheless with an amount of skill and care and unwearied labor which it would be impossible to praise too highly, and which could not have been exceeded if I had been the most wealthy and exalted client in the land, instead of a humble country medical man. When I think," adds Dr. Kidd, "of what the union has done for me in this trying case and of what I should have suffered without its powerful and kindly aid, and when I reflect that such advantages are open to every member of our profession at the cost of 10*s.* 6*d.* yearly, it becomes a matter of surprise to me that the membership roll of the Medical Defense Union is not identical with the *Medical Register and Directory*."

In addition to these considerations, the fact must not be lost sight of that the existence of such an association would act as a strong moral power in checking ill-advised and unwarrantable actions against physicians; for not only would the knowledge that the physician had the association at his back act as a deterrent, but further, the necessary preliminary examination of his case by the union before espousing his cause would of itself testify that he stood well with the profession, and be, moreover, a presumptive cause for his assailants to expect failure.

In this country, we believe, slanderous charges are more prevalent, actions for malpractice more common, and attempts to extort blackmail from physicians more frequent than in almost any other. We are constantly reading accounts of such in medical and lay journals. It does, therefore, seem extraordinary that no organized effort of any magnitude or universality exists in this direction; and while we question if it would be wise to impose upon the American Medical Association additional functions of a nature so divergent from those with which it is at present fully occupied, we do think that the initiative in organizing such a league might, owing to the far-reaching influence of the association, wisely take its rise from that body. But from whatever direction it comes, we would urge that such a league be formed, and that it be national, with State branches, and not so many isolated State leagues. For the principle of the stronger helping the weaker will apply as much between one State—or all the States—and another, as between individual medical men.

RÖNTGEN-RAY PELVIMETRY.

We do not recall having seen any account of the use of Röntgen pictures in pelvimetry prior to the appearance of an article by Fabre in *Lyon médical* for July 23d, and even that author does not seem to have resorted to their employment on the living subject. Such pictures have thus far been depended upon more to show form and locality than to record dimensions. No doubt, as Fabre remarks, this has been owing to the aberrations of dimension shown in the pictures —aberrations difficult if not insusceptible of correction by ordinary means. Acting on suggestions made by Fochier (*Province médicale*, June 24th), Fabre has, however, made satisfactory observations of the dried pelvis, but, as we have already said, does not seem to have applied his method to the living woman. The procedure is very simple, and it might be turned to practical account in obstetric pelvimetry. The essence of it is the placing of a serrated strip of metal in front of the object to be observed, and at a measured or closely estimated distance from it, each space between adjacent serrations being of a uniform and known extent, a centimetre or any convenient fraction of an inch. The image of this serrated strip of metal would serve as a scale for the rest of the picture.

What possibilities there seem to be in such a method of pelvimetry! Away with callipers and all other mechanical pelvimeters! Here is a process that will accurately register the various dimensions of the superior and inferior straits, define the axis of the bony parturient canal, and lay down contour lines of the passage the fœtus has to traverse. Röntgen-ray observations of the pelvis, of course, could be more readily made when the woman was not pregnant, but there is no serious bar, apparently, to their being very serviceable at any time, even up to the setting in of the actual process of parturition. Pelvimetry has heretofore been a somewhat inaccurate process, even in the hands of the expert and with no matter what instruments, but now, with the aid of the Röntgen rays and the scale graduated in notches, nothing, it would seem, can be simpler than to secure an undeniably correct representation of the shape and dimensions of the pelvis in all its details, and that, too, without so much as ruffling my lady's precise attire. The exposure, we take it, need not be protracted, and consequently the risk of burns will be practically nil.

THE TORONTO MEETING OF THE CANADIAN MEDICAL ASSOCIATION.

It was to be expected, from the staid and well-balanced character of our Canadian brethren, that the Toronto meeting would keep steadily at its work regardless of the attractions of the industrial exposition that was going on in the city at the same time. And so it turned out; the ample programme was not slighted, and the meeting was profitable in an uncommon degree. Entertainments there were, indeed, as there could not fail to be in a place having such facilities for them as Toronto has, and one whose people are so hospitable; but they were according to previous arrangement and did not interfere with the association's real work. The compliment of assigning the address in surgery to an American, Dr. Coley, will be appreciated by the profession in the United States, and it may not be superfluous to mention the fact that the Americans present were gratified to see the Stars and Stripes among the decorations of the hall. We are happy to believe that the respect and good-will cherished by the medical profession of the two countries for each other will never be disturbed by the machinations of politicians or the greed of money-makers.

MORE NEWSPAPER MEDICINE.

One of the newspapers recently announced that a physician had certified that a man had died of opisthotonos, which it described as "a first cousin to tetanus."

AN EARLY OPPONENT OF CRANIOTOMY.

It is but a few years since craniotomy was one of the recognized resources of obstetrics. Although, we think, it was never looked upon with favor in the United States, still, it required a good deal of courage to condemn it *in toto*. One of those who had that courage was Dr. Busey, of Washington. At a recent meeting of the Washington Obstetrical and Gynæcological Society Dr. Henry D. Fry, at the close of a paper entitled The Surgical Treatment of Unrotated Occipito-posterior Positions (*American Journal of Obstetrics*, August), thus brought to mind Dr. Busey's position: "It was in the infancy of the organization when our venerable founder and first president took the ground that craniotomy was never justifiable upon the living child.

His position was assailed at home and abroad and led to the publication, in one of our most prominent journals, of an able but severely sarcastic criticism. At that time the revived symphysiotomy operation with its low mortality was not known. The only substitute for craniotomy was the improved Cæsarean section, which had just begun to win the confidence of the profession. Through all the storm of adverse criticism Dr. Busey remained silent and waited for Time, the great arbiter, to set him right. He has lived to see the majority of the profession come around to accept views which he advanced ten years before their time."

A POISONOUS SPIDER OF THE TROPICS.

In temperate climates we think little of poisonous spiders' bites, though they are occasionally encountered. In the tropics, however, they figure more largely in general practice. G. Braun (*Wiener medicinische Presse*, 1899, No. 6; *Centralblatt für innere Medicin*, August 12th) writes of the bite of *Latrodectus tredecius punctatus* as giving rise to diffuse pain, great restlessness, sleeplessness, and prostration. In one case he observed a rash resembling that of scarlet fever, and once there was retention of urine, but the latter is said to occur only when the bite is on the lower half of the body. Recovery occurs in from three to five days.

ACCIDENTAL VACCINATION OF THE VULVA.

The misadventure of accidental vaccination is sometimes serious, but in a case related by Maillefert, of Magdeburg (*Münchener medicinische Wochenschrift*, 1899, No. 18; *Deutsche Medizinal-Zeitung*, August 10th), the formation of vaccine pocks on the labium pudendi seems to have been attended with little inconvenience, doubtless because the pocks ran a rapid course in consequence of the woman's having been successfully vaccinated fourteen years before. Her youngest child had a very sore arm as the result of vaccination, and she dressed it with cloths dipped in oil. One of these cloths she afterward used for wiping her vulva, as she was suffering from an abundant vaginal discharge attendant upon pregnancy.

ABSCESS OF THE GLOSSO-EPIGLOTTIC FOSSA.

It has fallen to the lot of Lublinski (*Deutsche medicinische Wochenschrift*, 1899, No. 8; *Centralblatt für Chirurgie*, July 29th) to observe three cases of this rare affection, known also as angina præepiglottica phlegmonosa. In all of them the abscess was situated on the left side, and some difficulty of inspiration was occasioned by the epiglottis being pushed downward and backward. The abscess was very tender to the touch. It was with great difficulty that the diagnosis was made with the aid of the laryngoscope. The swelling looked grayish-red and shining, and felt pasty.

TETANY FOLLOWING PARTIAL THYREOIDECTOMY.

Much as we have learned of late years about the physiological importance of the thyreoid gland, it is not easy to understand the part it plays in withstanding convulsive affections. This remark is prompted by an account of the case of a lad who was subjected to excision of the middle and left lobes of the gland for goître. The right lobe was left, although it was about as large as a hen's egg. Four months later this remaining lobe became enlarged and indurated, and the boy was suddenly seized with spasms of the arms and then of the legs. They gradually grew milder, and subsided in the course of a week. At the same time the remains of the goître became smaller again. The case is related by F. Schilling, of Nuremberg (*Münchener medicinische Wochenschrift*, 1899, No. 8; *Centralblatt für Chirurgie*, July 29th).

TYPHOID FEVER AND RECTAL THERMOMETRY.

There has long been reason to fear that in some hospitals rectal thermometry, practised on patient after patient by a ward attendant, was not altogether beyond the suspicion of conveying disease from one person to another. This has actually happened in a Turin hospital. Bormans (*Gazzetta medica di Torino*, 1899, No. 4; *Centralblatt für innere Medicin*, August 19th) tells of three instances in which typhoid fever was so conveyed.

COTTON-SEED OIL.

It has long been known in this country that cotton-seed oil was wholesome and nutritious; furthermore, that, when properly prepared, it was as palatable as any but the best of olive oil. The *Lancet*, in its issue for July 29th, recognizes these facts and suggests that the oil might be used to advantage as a substitute for cod-liver oil in many cases.

DEAFNESS DUE TO MUMPS.

Like influenza, mumps is a disease more to be dreaded for its complications and sequelæ than for the direct damage done by it. Fortunately, mumps occurs but once as a rule, and its complications are rare. Among them is deafness. This was long ago recognized by Toynbee, but Gallavardin has recently performed a service by going over the subject anew (*Gazette des hôpitaux*, December 17, 1898; *Parole*, June, 1899). It seems that the deafness of mumps is generally total and permanent, though it may affect only one ear. It appears early in the disease, either suddenly or as a sequel of labyrinthine symptoms like those of Ménière's disease. The pathogeny remains obscure, but most authors think there is a sanguineous effusion into the labyrinth. Treatment is of no avail as regards the power of hearing, but the vertigo may be mitigated by means of quinine.

ITEMS.

An Army Sanitarium for Tuberculosis.—The following general order No. 159, dated August 29th, has been issued from the adjutant-general's office by direction of the major-general commanding: By direction of the secretary of war, the surgeon-general of the army is authorized to establish a general hospital at Fort Bayard, New Mexico, as a sanitarium for the treatment of officers and enlisted men of the army suffering from pulmonary tuberculosis, and hereafter transfers of enlisted men suffering from this disease may be made to this hospital upon the recommendation of medical officers of the army (to be forwarded through military channels).

Such buildings pertaining to the post of Fort Bayard as may be necessary to carry this order into effect will be designated by the surgeon-general of the army. Fort Bayard will be put in good state of repair by the quartermaster's department.

The surgeon-general is also authorized to provide for the care and treatment of discharged soldiers entitled to the benefits of the United States soldiers' home, Washington, District of Columbia, who may be sent to the sanitarium by the board of commissioners of the home, the expense for the maintenance of such discharged soldiers to be paid from the soldiers' home funds.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the week ending September 2, 1899:

DISEASES.	Week ending September 2.	
	Cases.	Deaths.
Typhoid fever	79	12
Scarlet fever	53	4
Cerebro-spinal meningitis	0	14
Measles	83	6
Diphtheria	104	23
Croup	9	6
Tuberculosis	206	151
Small-pox	0	0
Chicken-pox	1	0

An Examination for Appointment as Assistant Physician, Junior Grade, to the Government Hospital for the Insane.—The United States Civil-Service Commission announces that on October 4, 1899, an examination will be held in any city in the United States where the commission has a board of examiners for the position of assistant physician, junior grade. The examination will consist of the subjects mentioned below, which will be weighted as follows:

Subjects.	Weight.
(1) Letter-writing	5
(2) Anatomy and physiology	15
(3) Chemistry, materia medica, and therapeutics	15
(4) General and special pathology	25
(5) Surgery	20
(6) Bacteriology and hygiene	10
(7) Obstetrics and gynæcology	10
Total	100

The minimum age limitation for entrance to this examination is twenty years; the maximum none. The examination is open to both men and women, but a separate eligible register will be kept for each sex. From the "eligibles" resulting from this examination certification will be made to fill two positions in the government hospital for the insane, one from the male register at nine hundred dollars per annum, and one from the female register at six hundred dollars per annum. This examination is open to all citizens of the United States who comply with the requirements. All such citizens are invited to apply. They will be examined, graded, and certified with entire impartiality and wholly without regard to any consideration save their ability as shown by the grade attained by them in the examination. Persons desiring to compete should at once apply to the United States Civil Service Commission, Washington, D. C., for application forms 304 and 375, which should be properly executed and promptly filed with the commission.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending September 1, 1899:

Small-pox—United States.

Jacksonville, Fla.	Aug. 26	1 case.	
New Orleans, La.	Aug. 26	1 "	
Boston, Mass.	Aug. 26		1 death.
Fall River, Mass.	Aug. 26	1 "	
Battle Creek, Mich.	Aug. 26	Reported present.	
Cleveland, Ohio.	Aug. 26	2 cases.	
Philadelphia, Pa.	Aug. 26	1 case.	
Spokane, Wash.	Aug. 19	1 "	

Small-pox—Foreign.

Buenos Ayres, Argentine Republic	June 1–30		1 death.
Budapest, Austria	Aug. 6–10	1 case.	
Antwerp, Belgium	Aug. 5	3 cases,	1 "
Rio de Janeiro, Brazil	July 14–27		11 deaths.
Cairo, Egypt	July 22–29		4 "
Cairo, Egypt	July 29–Aug. 2		5 "
Hull, England	Aug. 19		3 "
London, England	Aug. 5		1 death.
Athens, Greece	Aug. 5–14	5 "	2 deaths.
Bombay, India	July 25–27		9 "
Bombay, India	Aug. 1		13 "
Madras, India	Aug. 15–21		1 death.
Chihuahua, Mexico	Aug. 20		1 "
Mexico, Mexico	Aug. 13–22	6 "	3 deaths.
Nuevo Laredo, Mexico	Aug. 12–18		1 death.
Moscow, Russia	July 29–Aug. 5	3 "	
Moscow, Russia	Aug. 5–14	3 "	1 "
Odessa, Russia	Aug. 5	1 case,	2 deaths.
St. Petersburg, Russia	July 29–Aug. 5	8 cases.	
St. Petersburg, Russia	Aug. 5–12	7 "	2 "
Erzerum, Turkey	Aug 5	2 "	

Yellow Fever—Foreign.

Buenos Ayres, Argentine Republic	June 1–30	8 cases,	8 deaths.
Rio de Janeiro, Brazil	July 14–27		6 "
Barranquilla, Colombia	Aug. 6–13		2 "
Havana, Cuba	Aug. 14–27		7 "
Matanzas, Cuba	Aug. 21	1 case.	
Santiago, Cuba	Aug. 12–19	3 cases,	4 "
Tuxpan, Mexico	Aug. 14		5 "
Vera Cruz, Mexico	Aug. 17–24		22 "

Cholera.

Bombay, India	July 25–Aug. 1		7 deaths.
Calcutta, India	July 15–Aug 3		73 "
Yokohama, Japan	July 29		1 death.

Plague.

Alexandria, Egypt	July 30	4 cases,	3 deaths.
Bombay, India	July 25–Aug. 1		132 "
Calcutta, India	July 15–Aug. 3		7 "
Straits Settlements, Penang	July 7–14		71 "
Straits Settlements, Singapore	July 1–15	7 "	4 "

The Buffalo Academy of Medicine.—At the last regular meeting, on Tuesday evening, the 5th inst., Dr. A. L. Benedict read a paper entitled The American Aborigines from a Medical and Surgical Standpoint.

Changes of Address.—Dr. L. S. Sobel, to 1421 Lexington Avenue; Dr. W. F. Varcoe, to 232 West Twenty-second Street.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 26 to September 2, 1899:*

BARRETT, EDWARD J., First Lieutenant and Assistant Surgeon, United States Volunteers, will proceed to Camp Meade for duty.

Galbraith, Charles M., First Lieutenant and Assistant Surgeon, United States Infantry, will proceed to Camp Meade for duty.

Gilman, Louis L., Acting Assistant Surgeon, will proceed to Fort Hancock, New Jersey, and report for temporary duty pending the arrival of Howard, Deane C., Captain and Assistant Surgeon.

Hall, William R., Major and Surgeon, will proceed by steamer *Missouri* and report to the commanding general, Department of the Pacific, and to the Eighth Army Corps for duty in the Philippine Islands.

Lippincott, Henry, Lieutenant-Colonel and Deputy Surgeon-General, United States Army, will represent the medical department of the army at the eighth annual meeting of the military surgeons of the United States at Kansas City, Missouri, *vice* Powell, Junius L., Major and Surgeon, United States Army, relieved.

Mathews, George W., Captain and Assistant Surgeon, Thirty-sixth Regiment, is ordered to temporary duty with the Third Artillery, Malolos, Philippine Islands.

Mazzuri, Paul, Acting Assistant Surgeon, United States Army, is ordered to duty in the office of the chief surgeon of the department, with station in Matanzas, Cuba.

O'Reilly, Robert M., Major and Surgeon, United States Army, is granted leave of absence for a month to visit the United States.

Pray, Gilbert L., Acting Assistant Surgeon, United States Army, is ordered to temporary duty at the General Hospital, Presidio of San Francisco, awaiting transportation to the Philippine Islands.

Robins, Robert P., Captain and Assistant Surgeon, United States Volunteers, is assigned to the Forty-seventh Infantry, and will join his regiment upon its arrival in Manila.

Wales, Philip G., Captain and Assistant Surgeon, United States Army, is granted sick leave for one month.

Weaver, Frederick C., Acting Assistant Surgeon, United States Army, is assigned to duty on the transport *City of Puebla* during the voyage of that vessel to the Philippine Islands.

Webb, Walter D., Captain and Assistant Surgeon, United States Volunteers, is assigned to the Forty-third Infantry, United States Volunteers, and will proceed to Fort Ethan Allen, Vermont, for duty.

Wilson, James S., First Lieutenant and Assistant Surgeon, United States Army, will proceed on the United States hospital ship *Missouri* to Manila.

Wilson, Nelson W., Acting Assistant Surgeon, United States Army, will report to the commanding officer, Fort Porter, New York, for duty as medical examiner of recruits at Buffalo.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending September 2, 1899:*

Englander, E., Pharmacist. Detached from the Mare Island Navy Yard and ordered to the New York Navy Yard.

Gravatt, C. U., Medical Inspector. Ordered to duty at the New York Navy Yard as a member of the board of medical examiners.

Guest, M. S., Passed Assistant Surgeon. Ordered to the Boston Navy Yard.

Lewis, L. R. G., Pharmacist. Detached from the New York Navy Yard and ordered home to await orders.

Stokes, C. F., Passed Assistant Surgeon. Detached from duty as a member and recorder of the board of medical examiners at the New York Navy Yard and ordered to continue on duty at the Naval Hospital, New York.

Dunn, H. A., Assistant Surgeon. Detached from the Washington Navy Yard and ordered to the Port Royal Naval Station.

Garton, W. M., Assistant Surgeon. Detached from the *Annapolis* and ordered to the Norfolk Navy Yard for duty on the *Franklin*, instead of to the Naval Academy.

Guest, M. S., Passed Assistant Surgeon. Detached from the Boston Navy Yard and ordered to the *Wabash*.

Hurd, I. N., Pharmacist. Detached from treatment at the Naval Hospital, Mare Island, California, and granted sick leave for three months.

Johnson, M. K., Assistant Surgeon. Detached from the *Marietta* and ordered to the *Nashville*.

Kerr, D. B., Assistant Surgeon. Detached from the *Yankton* and ordered to the *Marietta*.

Rosenbleuth, J. C., Passed Assistant Surgeon. Detached from the *Nashville* and ordered to the Naval Hospital, Chelsea, Massachusetts, for treatment.

Stitt, E. R., Passed Assistant Surgeon. Detached from the Bureau of Medicine and Surgery and ordered to the *Hartford*.

Stuart, A., Assistant Surgeon. Detached from the Port Royal Station and ordered to the *Yankton*.

Waggener, R., Pharmacist. Ordered to the Army and Navy General Hospital, Hot Springs, Arkansas, for treatment.

Society Meetings for the Coming Week:

Monday, *September 11th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); German Medical Society of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

Tuesday, *September 12th:* New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); Buffalo Academy of Medicine (Section in Medicine); Rome, New York, Medical Society; Medical Societies of the Counties of Rensselaer and Ulster (quarterly), New York; Newark (private) and Trenton, New Jersey, Medical Associations; Clinical Society of the Elizabeth, New Jersey, General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *September 13th:* New York Pathological Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Medical Society of the County of Montgomery, New York (quarterly); Worcester, Massachusetts, District Medical Society (Worcester); Philadelphia County Medical Society.

Thursday, *September 14th:* Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Societies of the

Counties of Cayuga and Cortland (quarterly), New York; South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *September 15th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Births, Marriages, and Deaths.

Married.

FORSYTHE—WRIGHT.—In Boston, on Wednesday, August 30th, Dr. H. H. Forsythe, of Amsterdam, New York, and Miss Anna Wright.

Died.

CAEMMERER.—In Brooklyn, on Wednesday, August 30th, Dr. William H. Caemmerer, in the seventy-eighth year of his age.

FEELY.—In Brooklyn, on Wednesday, August 30th. Dr. James Fitzgerald Feely, in the fifty-sixth year of his age.

O'NEIL.—In Providence, Rhode Island, on Tuesday, August 29th, Dr. Timothy H. O'Neil, in the forty-second year of his age.

Letters to the Editor.

SI TACUISSES, ETC.

PHILADELPHIA, *August 22, 1899.*

To the Editor of the New York Medical Journal:

SIR: Permit me, an outsider, to say a word concerning the grammatical lapsus of my learned friend Dr. Rose, in his letter of July 23d, printed in your *Journal* on pages 211, 212, and corrected by Dr. Max Talmey. There is no doubt that *doctor* takes no ending in the vocative, and Dr. Talmey is certainly correct. Yet it is equally certain that the distinguished linguist Dr. Rose knows the Latin declensions perfectly. Still, while it does frequently happen that one commits a blunder in writing hastily, even in his own vernacular, I find another explanation for Dr. Rose's mistake in writing "*si tacuisses, doctore!*" My esteemed friend is sufficiently familiar with Latin to know that *doctor* does not mean anything like physician in Latin, but a teacher, and that a physician in Latin is called *medicus*. He doubtless also remembers *Medice, cura te ipsum*, therefore he meant to say: "*Si tacuisses, medice, philosophus mansisses.*" Since, however, "doctor" is eternally on the lips of a physician, speaking in any of the modern languages, the pen has run ahead of my learned friend, merely catching the tail of the word, appending the *e* vocative of *medicus* to *doctor*. And, since a *lapsus calami* in Latin or Greek nowadays appears to be an enormity, it is not easily passed over, while other mistakes are securely enthroned, repeated, and taught without a suspicion. Why, for instance, do all physicians among the English-speaking nations write M. D. after their names? Why not D. M.? Surely this is the Latin order. Why LL. D.? Why D. D.? The physician is *doctor medicus* or *doctor artis medendi* or *doctor medicinæ*. The lawyer is *doctor juris*, and not *legum;* the clergyman is *doctor theologiæ* or *sacrosanctæ theologiæ*, but not "*divinitatis doctor*," which is absurd, for there is no such Latin word as *divinitas* for theology; *divinitas* means the Godhead, the divine nature, of which no clergyman is a teacher. Allow me, finally, to call attention to the Latin of the medical diplomas. I have seen revolting specimens of barbarism and ignorance in some of them. The medical profession would do well, in the interest of its own reputation, to subject them all to scholarly criticism by some committee of experts.

ARCADIUS AVELLANUS,
Editor of Præco Latinus.

⁂ Our learned correspondent's suggestion as to what led to the erroneous "*doctore*" is plausible. We regret that the mistake escaped detection in our office—all the more because we can not say that we had "*medice*" in mind. As for the objection to M. D., we have always supposed that the letters stood for *medicinæ doctor*, and that seems to us to be good Latin.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XXXV.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(Continued from page 352.)

Deceit and Misrepresentation.—It is a general rule of law that a statement which amounts to an expression of opinion, even though erroneous, does not furnish ground for action. Deception, to be actionable, must relate to existing or past facts, and not to representations made as to facts to transpire in the future. The reason most commonly given for this condition and the one upon which the law is probably founded is that one to whom an opinion is expressed as to a future event has no right to rely upon it.* And so a purchaser may not rely upon the representation of a vendor regarding the quantity or value of an article which is open to his inspection, but must depend upon his own judgment.† And also where statements were made by a real-estate agent to a widow to induce her to exchange her homestead for other property—that she was making a good trade and bettering her condition, and that she could sell enough of the other property to pay for a house—such statements are considered mere expressions of opinion and not misrepresentations; for while the person to whom such representations are made may rely upon them, he is supposed to be equally able from his own opinion to come to as correct a conclusion as the other party, and therefore can not claim to be misled by such opinion.‡

As the law is always, or nearly always, based upon reason, it is natural to expect to find an exception to this general law in cases where the reasons for its existence do not apply. Such an exception does exist in those cases where an opinion is expressed with intention to deceive, and where the other party has a right to rely upon the opinion; and also in cases where the facts are not equally known to both parties, but where the opinion is expressed by the one party and is founded upon special skill or knowledge by which he alone is able to form an opinion.*

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* Homer *vs.* Perkins, 124 Mass., 431.

† Evans *vs.* Bolling, 5 Ala., 550.

‡ Brady *vs.* Cole, 164 Ill., 116.

The expression of an opinion by a physician and surgeon relative to the subject of his profession comes peculiarly within the exception, and we therefore shall expect to see him held responsible for any deceit or misrepresentation. The case of Hedin *vs.* Minneapolis Medical and Surgical Institute † is one of some importance in which this question was adjudicated. In this case the plaintiff, an illiterate man, who had been badly injured in an accident, was suffering from a fracture at the base of the skull and was physically a wreck. He consulted the defendant. After being examined, he was positively assured by the surgeon that he could be cured by receiving treatment at that institute, but that he must pay a fee of five hundred dollars. By virtue of these representations the plaintiff paid the money demanded and submitted to the treatment, but upon failing to receive benefit therefrom, he brought suit to recover the money paid to defendant, basing his action upon the deceitful misrepresentation of the defendant's surgeon. The jury rendered a verdict of five hundred dollars in favor of plaintiff, from which defendant appealed, but the supreme court affirmed the judgment. Justice Collins, who gave the opinion of the court, expressed himself upon the law applicable to the case as follows: "Considering the circumstances and relations of the parties, there was something more in the defendant's statements than the mere expression of his opinion upon a matter of conjecture and uncertainty. It amounted to a representation that the plaintiff's physical condition was such as to insure a complete recovery. The doctor, especially trained in the art of healing, having superior learning and knowledge, assured plaintiff that he could be restored to health. That the plaintiff believed him is easily imagined, for a much stronger and more learned man would have readily believed the same thing. The doctor with his skill and ability should be able to approximate to the truth when giving his opinion as to what can be done with injuries of one year's standing, and he should always be able to speak with certainty before he undertakes to assert positively that a cure can be effected. If he can not speak with certainty, let him express a doubt. If he speaks without any knowledge of the truth or falsity of a statement that he can cure, and does not believe the statement true, or if he has no knowledge of the truth or falsity of such a statement, but represents it as true of his own knowledge, it is to be inferred that he intends to deceive. The deception being designed in either case, and injury having followed from reliance upon the statements, an action for deceit will lie."

Contributory Negligence.—In the eighth article of this series it has been observed that it is the duty of the patient to follow all reasonable directions and instructions given him by his physician, and that while a breach of this duty, resulting as it does principally in the injury of the patient, will not give rise to an action in favor of the physician, yet it is a fact which the physician may plead as a defense to an action commenced against him by the patient for negligent or unskillful treatment in the particular case. This failure of the patient to follow the instructions of the physician and conduct himself in a manner suggested by ordinary caution and prudence is known in the law as contributory negligence.

The instructions of the physician, in order to be binding upon the patient, must be such reasonable and proper instructions as a physician of ordinary skill would give; if, however, they impose unnecessary burdens or suffering upon him, he will be legally justified in not regarding them. In the case of McCandless *vs.* McWha,* the patient was suffering from a comminuted, oblique fracture of both tibia and fibula. The defendant attempted to effect extension and counter-extension by binding splints on the fore and back part of the leg, reaching from the ankle to the knee. These splints were bound on in such a way as to impede circulation, and to irritate the parts and cause them to be considerably swollen, thereby causing much pain. The patient, unable to stand the pain, loosened the bandages. This act, the defendant claimed, contributed to the injury, and should therefore be a defense to the action, but the court thought not. Justice Lewis said: "A patient is bound to submit to such treatment as his surgeon prescribes, provided the treatment be such as a surgeon of ordinary skill would adopt or sanction. But if it be painful, injurious, and unskillful, he is not bound to peril his health, and perhaps his life, by submission to it. It follows that before the surgeon can shift the responsibility from himself to the patient, on the ground that the latter did not submit to the course recommended, it must be shown that the prescriptions were proper, and adapted to the end in view."

If, however, the instructions given the patient were proper and adapted to the end in view, although the physician's treatment of the case may have been improper, and the patient fails to follow the instructions and injury ensues, what effect will such failure have upon his right to recover from the physician for the injury sustained? A casual examination of the cases in which this question is treated leads one to believe that there is considerable conflict of authority, but a more critical scrutiny shows that the conflict is only apparent, and that it results from a confusion of the two classes into which acts of this sort as a defense are divided.

The true doctrine, in general terms, seems to be that the physician having been guilty of negligence in the treatment of the case, the contributory negligence of the patient, when contemporaneous with the physician's negligence, or when uniting or cooperating with it in such a way as to conduce to the deleterious result of the physician's treatment, may be pleaded as a complete defense to an action against such physician. But if the contributory negligence is subsequent in point of time to the negligence of the physician, or if the effect of the physician's negligence and that of the patient can be separated in such a way as to show distinctively the deleterious result of each, then the patient's negligence will be received as a defense only in the way of mitigation of damages.* The case of Du Bois *vs.* Decker † affords an excellent illustration of the application of the second rule. The patient had through the improper treatment of the physician been subjected to two amputations. The physician set up as a defense that after the second amputation the patient failed to keep the limb in the position in which it was placed and in which he was instructed to keep it, and thereby produced bleeding which to some extent impeded the healing; also that he refused to take the doctor's prescriptions about this time; and, further, that he left the hospital before he should have done so, which may also have aggravated the injury. This, the court held, was all proper evidence to be considered by the jury for the purpose of mitigating damages, but that it would not relieve the physician from the consequences of previous neglect or unskillful treatment.

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* Conlan *vs.* Roemer, 52 N. J. L., 53.

† Hedin *vs.* Minneapolis Medical and Surgical Institute, 62 Minn., 146, 64 N. W. Rep., 158, 35 L. R. A., 417.

* McCandless *vs.* McWha, 22 Pa. St., 261.

In the case of Sanderson *vs.* Holland,‡ the patient, a little girl of six years, had fractured her arm at a point about two inches above the elbow. The physician, in reducing the fracture, first extended the arm its full length in a straight line, and in that position bandaged it from fingers to shoulder. He then put on splints from the shoulder to the elbow, and then forced the arm into a right angle so as to swing it, thereby pressing the elbow ends of the splints into the forearm, causing the child to scream with pain, and stopping the circulation of the lower arm, which caused gangrene. Permanent injuries ensued for which suit was brought. Evidence was shown by the defendant of careless treatment of the patient by her parents and others which contributed to the injury. In regard to the effect of this evidence Justice Gill said: "If the defendant carelessly and unskillfully set, bandaged, and dressed the plaintiff's arm, and she was injured thereby, then the action will not be *defeated* by showing that subsequently her parents added to the extent of such injuries by their carelessness and negligence in nursing. This showing would not *defeat* plaintiff's case, but merely go to *mitigate* the damages as against the defendant."

On the other hand, the case of Young *vs.* Mason # illustrates the rule that where the negligence of the patient is either contemporaneous with that of the physician or contributes to the deleterious results of the original unskillful treatment of the physician in such a way that the result of the doctor's negligence and that of the patient can not be distinguished, then the contributory negligence is a complete defense to the action.

The patient had fractured the radius of her left forearm near the wrist, dislocated laterally both bones at the elbow, and fractured the inner condyle of the humerus.

The evidence showed that with one exception the physician dressed and treated the patient's injuries in a manner approved and followed by the most skilled surgeons in that vicinity, and which is approved by the standard authors and text writers upon the subject of surgery. The exception is that the evidence did not conclusively show that he used proper skill and care in reducing the fracture near the wrist joint. The evidence also showed that the patient, contrary to instructions, removed her arm from the sling numerous times, placing it in different positions while out of the sling, and that the effect of removing the arm from the sling was to aggravate the inflammation and swelling, which had a tendency to produce the stiff and useless condition of the arm for which suit was brought. The evidence also showed that the proper treatment of the arm for the stiffness of the elbow, wrist, and finger joints was passive motion; that the physician endeavored to apply this treatment at the proper time but was prevented from so doing by the patient.

The court was of the opinion that the negligence of the physician alone was not the cause of the injuries sustained, but that that of the patient entered into the general result in such a way as to make the result of each indistinguishable; therefore the negligence of the patient was a complete defense to the action against the physician. Justice Davis, in rendering the opinion of the court, said: "For instance, suppose a man fractures the bones in his leg below the knee, and calls a surgeon to treat the injuries, and the surgeon negligently fails to reduce one of the fractures, but in all other respects gives proper treatment, and the patient, in disobedience to the directions of the surgeon, negligently removes the bandages used as a part of the proper treatment by the surgeon, or is otherwise guilty of contributory negligence, and such combined negligence of the surgeon and patient unite in producing a shortness and stiffness of the leg, for which injuries an action is brought against the surgeon—can the patient recover? The patient is certainly not responsible in such a case for the original negligence of the surgeon in failing to properly reduce the fracture, but this negligence of the surgeon unites with the subsequent contributory negligence of the patient in causing the shortness and stiffness of the leg." This being the case, a cause of action does not exist against the physician.

An instructive case comes to us from a Massachusetts report of some years ago. The plaintiff complained that through the negligence of the physician he became afflicted with a bedsore, from which by reason of negligent treatment he suffered damages. The evidence tended to show that the injury complained of was not a bedsore, but was caused by the patient's attendants carelessly dropping him on the bed rail. There was evidence, however, which showed that the physician did not give the injury proper treatment and that it was thereby greatly aggravated. The instruction given to the jury by the court learnedly and clearly presents all of the law of contributory negligence relative to the case, and is therefore quoted at length: "The burden of proof is on the plaintiff to show that all the injury for which he seeks damages proceeds solely from the want of ordinary skill and care on the part of the defendant. If it be impossible to separate the injury occasioned by the neglect of the plaintiff himself from that occasioned from the neglect of the defendant, the plaintiff can not recover. If, however, they can be separated, for such injury as the plaintiff may show thus proceeded from the want of ordinary skill or ordinary care of the defendant he may recover. In the present case the plaintiff claims damages of the defendant for want of ordinary care and ordinary skill in the treatment of him by the defendant, by which, as he says, first a bedsore was caused, and second, after the bedsore was caused, it was improperly treated and neglected. If the plaintiff should fail to satisfy you that the sore was caused by neglect of the defendant, for this damage he could not, of course, recover, but he might still recover

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* Lawson *vs.* Conaway, 37 W. Va., 159. Jones *vs.* Angell, 95 Ind., 376. Becker *vs.* Janinski, 27 Abb. N. C., 45. Scudder *vs.* Crossman, 43 Ind., 343. Guselman *vs.* Scott, 25 Ohio St., 86.

† Du Bois *vs.* Decker, 130 N. Y., 325.

‡ Sanderson *vs.* Holland, 39 Mo. App., 233.

Young *vs.* Mason (Ind. App.), 35 N. E. Rep., 521.

for the injury occasioned to him solely by the subsequent neglect of the defendant in not taking proper care of it (should he prove such neglect), even if the sore was occasioned by the plaintiff's own carelessness. If, however, in the case last supposed, the injury has resulted to the plaintiff not solely from neglect in the subsequent treatment of it by the defendant, but also from his own subsequent neglect, and the jury are not satisfied but that both causes have combined to produce the subsequent injury, the plaintiff can not recover for it. While, on the one hand, the defendant would not be released from his duty to exercise ordinary care and ordinary skill in his subsequent treatment of a disease because at a previous stage of it the plaintiff had himself been negligent, and had thus contributed to the condition in which he was, on the other hand it would be for the plaintiff to show, if he seeks damages for want of ordinary care and ordinary skill on the part of the defendant in his subsequent treatment, that it proceeded solely from this, and not from any subsequent neglect of his own." *

The defense of contributory negligence is one which may be made in many cases; it is therefore thought that the importance of the subject will justify the particularity with which it has been treated.

Survival of Action.—At common law a cause of action arising from an injury to the person caused by want of skill or negligence of a physician and surgeon did not survive the death of either physician or patient.† The law upon this question has, however, been greatly altered in many of the States by statutes expressly providing for its survival, so that in case of death of either party suit may now be brought, or, if previously commenced, may be continued by or against the personal representative of the deceased.

(*To be continued.*)

Pith of Current Literature.

A Roomy Nasopharynx in Relation to Nasopharyngeal Troubles.—Mr. Lennox Browne's statement in his *Treatise on Diseases of the Throat* that "the wider the distance between the soft palate and the pharynx, the more surely one may expect to find postnasal trouble," having been taken exception to by a recent reviewer, Mr. Browne (*Scalpel*, July) reviews his position not only in the light of his own observations, but in that also of those of many of his colleagues, a large number of whom are in accord with him. Mr. Browne quotes the following words from an abstract in the *Journal of Laryngology* for March of a report of Dr. Gerber's Poliklinik for Nose, Throat, and Ear Diseases in Königsberg for the five years ending 1896 (*Monatschrift für Ohrenheilkunde*, July, 1898) on the ætiology of ozæna: "The nasal cavity is broader and shallower, the sæptum is shorter from before backward, and the depth of the nasopharynx is increased. Measurements in one hundred cases showed that in ozæna the sæptum was shorter from before backward by three millimetres, while the diameter of the nasopharynx in the same direction was correspondingly increased."

Upon this Mr. Browne remarks that these words are pregnant with importance, and go far to confirm another of his contentions, that in the very large proportion of cases of so-called atrophic rhinitis, especially such as may be due to hereditary syphilis, scrofula, or struma, it is a misnomer to apply the term atrophy to a structure which has never been satisfactorily developed. He has explained this as due to "a want of correlation between the growth of the child and of the ethnoid structures. For this condition Wyatt Wingrave offers the alternative term 'dystrophic.'" Mr. Browne has also alluded to the converse circumstance, "that we have a so-called hypertrophy of the nasal structures of children occurring before puberty, in which the growth of the turbinal is in excess of the growth of the child."

Gerber's figures and facts would appear to show that what Mr. Browne has suggested as the result of postnatal irregularity of growth has really commenced as an incident of embryonic life, and he accepts and desires to adopt the correction.

Gerber's information is further interesting as affording confirmation of the view that what Mr. Browne has described as the facial type in atrophic rhinitis is equally due to embryological vice, seeing that both are in all probability equally dependent on imperfect development of various and allied rudimentary processes, each springing from one and the same source. This facial type consists of "an abnormal patency of the anterior nares, with an upturned condition of the nose. This excessive patency and 'tip-tilting' of the nostril is not dependent on any (postnatal) morbid process in the sæptum, as is seen in ulcerative syphilitic diseases, but is a congenital feature which presents an aberrant type in the fronto-nasal plate. Thus, the anterior aperture of the nostril, instead of looking almost directly downward, looks more or less forward, and so allows the air current to pass directly into the inferior meatus." In his opinion the pathological effect of this perverted arrangement is accounted for by the circumstance that this direct intake of the breath is favored by the greater width of the nostrils, and by the absence of the vibrissæ, which in itself constitutes an early evidence of the atrophic process. The air, therefore, passes straight through the inferior meatus to the pharynx, instead of traversing the middle and (already over roomy) superior parts of the nasal cavities; as a consequence there is insufficient diffusion with the warmed and moistened air of the nasal fossæ, and of the accessory sinuses—the nasal reservoirs.

To summarize—atrophic rhinitis, which, be it noted, is essentially both a nasal and a nasopharyngeal disease, is associated with undue patency of nasal orifice, nasal vestibule, nasal fossæ, and of nasopharyngeal vault. It may be taken therefore as a type of what is likely to be found in "the happy possessor of a roomy nasopharynx."

The Destruction of the Femoral Artery and Vein without Loss of the Limb.—Dr. B. Merrill Ricketts (*Journal of the American Medical Association*, August 12th), in a paper on this subject presented to the American Medical Association at Columbus, reports three of his own cases in which respectively the femoral vein, the external iliac vein, and both the femoral artery and vein were ligated without occlusion and with restoration of the limb. The author draws the following conclusions: 1. Amputation of the leg is not always necessary when the lumen of the femoral artery or vein, or both, is suddenly or slowly occluded by injury or otherwise. 2. It is better to ligate the femoral artery or vein, or both, and give the patient the benefit of a doubt than to amputate immediately. 3. It is impossible to determine the circulation of the thigh or any given part of the human body without a complete dissection, which can only be done post mortem. 4. Ligating the femoral artery or vein, or both, in chronic pathologic conditions of the thigh, seems less likely to result in death or gangrene than when the ligature is applied in case of accidents in a normal thigh. 5. It can not be determined what rôle, if any, any one of the six varieties of the femoral artery has played in any case in which the femoral artery or vein, or both, have been ligated, as no record of dissection seems to have been made. 6. While end-to-end anastomosis may be accomplished, complete occlusion sooner or later takes place. 7. Suturing and the application of ligatures to arteries and veins which have been lacerated have no advantage over complete immediate occlusion by ligature. 8. Gangrene is possibly due to septic infection and not merely to the occlusion of the femoral artery or vein, or both, unless the vessels for collateral circulation are absent. 9. The preservation of the leg does not seem to depend upon the ligating of the femoral artery or vein, or both, at any particular point.

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* Hibbard *vs.* Thompson, 109 Mass., 286.

† Wolf *vs.* Wall, 40 Ohio St., 111.

Five Cases of Angina caused by Pneumococci were observed by A. and V. Vedel (*Montpellier médical*, 1898, No. 29; *Pœdiatrics*, August 15th). Three cases represented the erythematous form, and the patients recovered in from seven to eight days. Two exhibited a pseudo-membranous angina; these patients gave the impression from the beginning of suffering from a severe infection. All therapeutic resources (including antitoxine) were useless, the cases ending fatally.

The Importance of the Diazo Reaction in the Diagnosis and Prognosis of Scarlatina and Measles.—Löwe (*Bolnitzcha Gaseta Botkina*, Nos. 2 to 4, 1899; *Clinica moderna*, July 26th) has instituted careful researches in nine hundred cases of scarlet fever and measles, and has come to the conclusion that the diazo reaction does not constitute a pathognomonic sign of any malady, but is solely an indication of the gravity of the case.

The Operative Treatment of Labor in Cases of Pelvic Deformity.—Dr. George W. Dobbin (*Obstetrics*, August), from a critical review of the first thousand patients delivered in the obstetrical department of the Johns Hopkins Hospital, concludes that: 1. In a hundred and thirty-one cases of contracted pelves there was necessity for operative delivery forty-six times, or 35.11 per cent. 2. The pelves most frequently requiring operation are the rhachitic and irregular forms. The generally contracted pelvis, though very common in the negro race, is comparatively rarely sufficiently deformed to seriously obstruct labor. 3. Pelves in which the degree of contraction is slight, and those in which the contraction is very marked, are the easiest for treatment, as in both cases the indications are definite, and should give the operator little trouble in deciding upon the treatment to be pursued. 4. On the other hand, the pelves possessing a medium degree of contraction are the most perplexing, and call for the exercise of the greater skill and judgment. When proper appliances are at hand, such cases are best treated by tentative application of forceps, and this failing, immediate Cæsarean section. 5. In general, forceps give a lower fœtal mortality than version, but version done as a primary operation on a movable head in a slightly contracted pelvis is a safer operation for the child than a difficult high forceps operation. 6. Except in very exceptional cases, symphysiotomy is not to be compared with Cæsarean section, for the former operation, besides causing greater injury to the mother, is always an uncertain procedure. 7. Operations on contracted pelves are rarely uncomplicated. Among the commonest accidents may be mentioned premature rupture of the membranes and prolapse of the umbilical cord. 8. The only rational and scientific method of obtaining "corrected morbidity" statistics is by the bacteriological examination of the uterine lochia, for only in this way can we say definitely which infections are the result of operation.

An Ovarian Cystoma One Hundred and Seventy-six Pounds in Weight.—Dr. D. Tod Gilliam (*Medical Record*, August 5th) thus describes an enormous tumor operated upon by him: "I was brought into the presence of the patient, and must confess that I was surprised and disconcerted. As she lay in bed on her side with her back to the wall the tumor filled the bed, and as it quivered and vibrated with the respiratory movements it presented a spectacle that I shall never forget. It was simply monstrous, uncanny, and inhuman. In its huge and tremulous expansiveness it reminded one of a mastodonic amniotic sac. A peculiar feature was the comparative laxity of the cyst and abdominal walls, which allowed it to flatten out and spread all over the bed, and it extended from high up on the chest to below the knees. The face, chest, and arms were emaciated to the last degree, while the lower half of the abdomen was knobby and indurated as in elephantiasis. The lower extremities were truly elephantine in shape and appearance. I could not see the genitalia, nor did I make any attempt toward a vaginal examination, as these parts were obviously inaccessible. She was examined lying on her side, as the pressure of the tumor on the diaphragm gave rise to suffocative symptoms. The percussion wave was strikingly distinct over all parts. She was helpless in bed, and it required the assistance of several persons to change her position. Nevertheless, if placed on her feet she could walk. On the day of her admission, in attempting to change her position in bed the tumor gave a lurch and carried her bodily to the floor. It required the combined efforts of several men and nurses to replace her in bed. She was tall and of large frame, but with the exception of the lower extremities had wasted to a skeleton. She was of buoyant disposition and rather inclined to be jovial. I found her to be a woman of more than ordinary intelligence and shrewdness."

The author then describes the operation as follows: "The patient was in the best of spirits. She took the ether nicely and was placed on the operating table on her side. The bulk of the tumor extended over the side of the table and had to be supported by an assistant. This assistant was relieved at short intervals, as the position was too irksome to be maintained for any length of time. An incision six inches long was made down to the sac and revealed the thickened abdominal walls, consisting entirely of hyperplastic connective tissue. The cyst wall was also thick and dense, and was with difficulty penetrated by the trocar, showing that the abdominal and cyst walls had grown *pari passu* with the cystic accumulation, and that neither suffered from the pressure atrophy usually found in such cases. A large washtub was placed to receive the contents, which were of the color and consistence of very muddy water. The fluid left a greenish-yellow deposit on anything with which it came in contact. When the tub was nearly full it was removed and a waste-water tub substituted. It required three of these besides the large washtub to receive the contents. These tubs were all removed to one side of the room that no extraneous matter might find its way into them. The patient was now placed on her back and an attempt was made to break up the adhesions between the cyst wall and abdominal parietes, in which great difficulty was experienced. The pedicle was broad and was secured by a chain ligature. The cyst was cut loose and dropped into a receptacle. On attempting to wash out the cavity the two gallons of water poured in disappeared as completely as though poured into a waste-pipe, and it was seen that nothing short of a tub of water would avail to flush the cavity, so the attempt was abandoned. The redundant tissues of the abdominal wall hung down on either side of the table and covered the thighs to the knees. The surface was thrown into innumerable folds and fissures, but the folds were much larger and the wrinkling less conspicuous than in other large abdominal growths, because of the unusual thickness of the parietes. In attempting to sponge out the cavity pools of fluid were found in all sorts of out-of-the-way places. At this juncture what appeared to be a segment of the cyst wall about the size of a man's hand was found situated over the bladder and so firmly attached as to preclude any attempt at separation. The margins were clean cut as if severed by the knife or scissors. No one had any recollection of aught but the pedicle being severed, and the discovery of this gave rise to no little thought and speculation. After careful sponging and drying, the patch was folded on itself longitudinally and the edges were stitched with the Lembert suture. The wound was then closed, but in applying the bandage a large pendulous mass extended down over the thighs. The fluid contents of the tumor were next measured, a quart measure being used for the purpose. This was done by a sister supervised by the chief nurse. The count was made aloud and repeated by two censors and witnessed by several bystanders. There was no chance for deception or mistake. A quart of the fluid exclusive of the vessel was found to weigh two pounds and a quarter almost precisely. Of this fluid there were seventy-five quarts and a fraction. The cyst wall with its residue weighed a few ounces less than seven pounds. Altogether, therefore, the tumor weighed a little more than one hundred and seventy-six pounds. The patient did well from the first, although the pulse rate continued at or about 100 for two weeks. The only trouble arose from the maceration and excoriation of the skin in the deep sulci between the contiguous folds, necessitating the use of cotton packing as a protective."

An Operation for Restoration of the Lower Lip after its Entire Removal for Cancer.—Dr. Frederick Winnett (*Canadian Journal of Medicine and Surgery*, August) describes a case in which he recently modified the method of Regnier, which is simple of execution, and renders gangrene impossible, and the cosmetic effect perfect. Four years and a half ago a warty growth appeared, which two years and a half later became cancerous, and was removed by a quack with plasters. A year later it returned and was treated in a similar manner. The present growth began the previous August. Glands could not be felt.

With scissors the part was freely removed, the cut extending in a curved direction from the angles of the mouth to within three quarters of an inch of the lower margin of the chin. Two inches below this wound a parallel incision was made five inches in length through the skin down to the periosteum, and the bridge of skin was freed. A second bridge of skin was raised below this, an inch wide and two inches in length. Several enlarged submental glands were removed. The upper bridge of skin was slid up in contact with the upper lip, and anchored to the periosteum with four silkworm-gut sutures passing through the skin. The lower incision was sutured, bringing its ends together, thus causing it to assume a vertical direction, and forcing the lower bridge of skin up to cover the entire wound left by the removal of the upper bridge. The patient returned to business in three weeks.

The author's method differs from Regnier's in two particulars. The directions given by Regnier for estimating the width of the bridge of skin—one centimetre wider than the part to be removed—would often leave the cicatrix visible on the chin. The average width of the skin from the margin of the lip to the border of the chin is two inches. The author would therefore recommend that the bridge be always two inches wide in order to cover the whole chin and bring the cicatrix below it.

In the second place, the leaving of the raw surface to granulate is most objectionable, not only on account of prolonging convalescence and leaving a scar, but also on account of ultimate contraction drawing the lip down. Grafting would probably fail, owing to the discharges, and in a man would leave a bald spot. The author's plan utilizes the loose skin of the neck, leaving no part uncovered and hastening recovery.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-first Annual Congress, held in Chicago, Monday, Tuesday, and Wednesday, May 22, 23, and 24, 1899.

The President, Dr. William E. Casselberry, of Chicago, in the Chair.

Adeno-carcinoma of the Nose, with a Report of a Case.—Dr. James E. Newcomb read a paper on this subject. (See page 366.)

Dr. G. V. Woollen, of Indianapolis: I wish to briefly narrate a case that came under my observation last winter. I feel a little embarrassed in speaking of it because of failure of the microscope to determine the true condition. In this case nasal polypi had been removed by a rhinologist a number of times. The child was only eight years of age. The physician was apparently competent to determine that the growths he removed were polypi. In the mean time an effort had been made by a competent microscopist to determine whether the disease was malignant or not, and he declared it was benign, and that the disease was mucoid in character. I was impressed with the malignant appearance of the patient when brought to me. There was some exophthalmia, with deep ethmoidal trouble, stenosis, and possible sepsis. The masses in the posterior naris were finally removed after proper preparatory treatment. I saved a specimen for microscopical examination, but on account of a mistake of my assistant it was lost. The disease recurred rapidly after this. The masses and surrounding tissues were again removed with snare, curette, and scissors from the naris and nasopharynx very thoroughly, provided it was superficial in character. Again the disease recurred, and hæmorrhage supervened to such a degree that I determined not to do a further operation. The child was so exhausted and so young that after consulting with a competent surgeon I decided not to attempt to remove the superior maxillary. The parents were not satisfied with my decision, and I was pleased to refer the case to Dr. Solis-Cohen, of Philadelphia, who confirmed my diagnosis, as also my opinion as to the undesirability of operating again. The patient subsequently died from enormous distention of that side of the face; exophthalmia was marked, and the case proved to be malignant, without doubt, although not confirmed by the microscope. The reason why I speak of this case is: First, the appearance of this disease at so early an age. Second, the microscopist reporting that it was mucoid in character. However, I am anticipating myself a little. Two years ago the patient fell and received a severe injury of the bridge of the nose, so that traumatism seemed to be the initial influence in the production of the disease. Mucous polypi, apparently, were the first manifestations of the disease, and some of the masses I removed were so distinctly polypoid in character that I could not be mistaken. What the ultimate analysis would have shown with the microscope I could not say, but it was probably an adeno-sarcoma. The points of interest in the case are its traumatic origin, the youthfulness of the patient, the mixed character of the growths, and the possibility that surgical interference aggravated the disease.

Dr. E. Fletcher Ingals, of Chicago: I was surprised at the small number of malignant tumors of the nose mentioned by the author. I might have reported half a dozen, if I had thought them of special interest. So far as the macroscopical appearances and clinical histories could determine I have reason to suppose they are not very infrequent. I have had microscopical examinations made in but one case, and in this the findings were not typical, though the examination was made by an expert, but the clinical history justified the diagnosis very promptly.

Dr. J. L. Goodale, of Boston: In the discussion of Dr. Newcomb's paper I wish to mention briefly a case which I have had under my care since last year of epithelioma of the ethmoid region in a man, fifty-one years of age, who had polypi for over twenty years. These were removed semiannually by one or more physicians. He came to me in May, 1898, with a history to this effect, that during the preceding five months he had a bulging left eye, which was attended with great pain in the ethmoidal region, and blocking the nose much more so than it had done for some time previously. I found the left nostril completely filled with a friable, easily bleeding mass, a portion of which was removed, and showed on microscopical examination a connective-tissue stroma containing nests of epithelial cells. During the next five months I removed a large amount of similar tissue. Recurrence was rapid, and the man died a few months ago.

Dr. Thomas Hubbard, of Toledo: I wish to place on record the case of a farmer in whom the cause of the disease was a suppuration of the antrum. Syringing was carried on by the patient for a period of seven years, resulting in the formation of a growth undoubtedly within the antrum. When I saw the man the whole naris was filled with a mass of what I believed to be carcinomatous tissue, and my diagnosis of adeno-carcinoma was confirmed by an expert microscopist.

While this may be classed as a carcinoma of the antrum, yet the fact is that the growth probably originated near the ostium maxillare and developed simultaneously in the nose and in the antrum.

Dr. D. Braden Kyle, of Philadelphia: I desire to say a word or two in defense of the microscope and of the microscopist. The specimens of tissue taken from the nasal mucous membrane in cases of tumors are not sufficiently large to enable the microscopist to make a positive diagnosis. In a number of instances in which I have examined small specimens, I have sent a report back to the effect that the piece of tissue was not sufficiently large to make a microscopic diagnosis. You know that the mucous membrane of itself is a one-sided affair, backed up by bony structure, and a microscopist can not arrive at a positive diagnosis as to the malignancy or benignity of a tumor when such a small section is sent to him for microscopic examination. In all of these cases physicians should see to it that they remove larger pieces of tissue by going down deeper into the structure. Frequently the specimens are not large enough to warrant any one in making an accurate diagnosis. The microscopic examination should always be associated with the clinical history.

Dr. Newcomb: I have only a word or two to add. I was interested in the case related by Dr. Woollen, in view of the early age at which the polypus manifested itself in this child. Personally, I have never seen a polyp in a child under eleven.

In regard to the interesting and instructive case of Dr. Hubbard of an adeno-carcinoma starting from the antrum, I have endeavored in this collation of cases to limit myself strictly to malignant tumors of the nares. There are one or two cases of carcinoma reported as having started from the antrum, then running outside, one case through a tooth socket, and in one or two other instances spreading inward through the nasal fossa. I purposely omitted those cases from the category.

I am not a microscopist in the technical sense of the term, although I agree to what Dr. Kyle has said in reference to the importance of furnishing larger pieces or sections of tumors to the microscopist to enable him to confirm the diagnosis. Furthermore, I think we should furnish the microscopist with specimens removed at different times, particularly when we have reason to believe that we have to deal with a new growth. There is a good deal we do not know with reference to the change in the characteristics of new growths. These changes are as obscure to the microscopist as they are to the clinician.

Presentation of New Instruments.—At the end of the association's meeting the following new instruments were presented. Their description is included in the current number under the head of New Inventions.

An Adjustable Nasal Splint.—Dr. John W. Farlow presented a nasal splint devised by Dr. R. A. Coffin, of Boston. (See page 392.)

Three Improved Instruments for Use in the Operation for Removal of Lymphoid Growths from the Vault of the Pharynx.—These instruments were presented by Dr. THOMAS R. FRENCH. (See page 393.)

(To be continued.)

Book Notices.

On Fractures and Dislocations. By Professor Dr. H. HELFERICH, of Greifswald. Illustrated with Sixty-eight Plates and One Hundred and Twenty-six Figures in the Text, drawn by B. Keilitz. Translated from the Third Edition by J. HUTCHINSON, Jr., F. R. C. S., Surgeon to the London Hospital. New York: William Wood & Co., 1899. Pp. 130. [Price, $3.]

To make a correct diagnosis in all forms of fractures and dislocations and to follow it with the proper treatment, requires a vast amount of clinical experience, which, unfortunately, can not be obtained by all of us. Wading through countless pages of descriptive matter to obtain the desired information is both irksome and unsatisfactory. This atlas is therefore a boon to the student, for in a measure it supplies him with the needed clinical material, and at a glance he sees the injury portrayed before him, together with its anatomical features. We can hardly say as much for the treatment advised, which, although rational in character, is necessarily briefly treated, owing to the limited space available in so small a volume.

The text consists of 130 pages, mostly devoted to the description of the colored plates, which are not only beautifully executed, but show a vast amount of careful preparation. Especially is this the case in regard to the dissections of artificially produced fractures and dislocations, to show the pathological anatomy thereof. Some of the figures are taken from photographs and reproduce the deformities existing in the living subject. These are especially interesting and instructive. Museum specimens and the cadaver have been called upon where clinical material has been lacking.

The atlas has supplied us with a long-felt want.

Practical Diagnosis: The Use of Symptoms in the Diagnosis of Disease. By HOBART AMORY HARE, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, etc. Fourth Edition, revised and enlarged. Illustrated with Two Hundred and Five Engravings and Fourteen Colored Plates. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. x–17 to 631. [Price, $5.]

THE addition of several illustrations is the only prominent feature that differentiates the latest edition of this admirable work from its immediate predecessor. This is accounted for by the very brief time that has elapsed between the publication of the two editions, a brevity which must of necessity be flattering in the extreme to the author.

Our Baby: For Mothers and Nurses. By Mrs. LANGTON HEWER, Late Hospital Ward Sister, etc. Sixth Edition, revised. London: Simpkin, Marshall, Hamilton, Kent, & Co., 1899. Pp. viii–154.

THE sixth edition of this work, following so closely upon the last, evinces a growing popularity for this little book, which is intended solely for the use of mothers and nurses. It has been carefuly revised and much of interest added to the text.

BOOKS, ETC., RECEIVED.

Materia Medica, Therapeutics, Medical Pharmacy, Prescription-writing, and Medical Latin. A Manual for Students and Practitioners. By William Schleif, Ph. G., M. D., Instructor in Pharmacy in the University of Pennsylvania. Series edited by Bern B. Gallaudet, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, New York, etc. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. 5 to 354. [Price, $1.50.]

Transactions of the Medical Society of the State of New York. For the Year 1899.

Thirty-ninth Annual Report of the Medical Superintendent of the Matteawan State Hospital. For the Year ending September 30, 1898.

Femoral Artery and Vein: their Destruction without Loss of Leg. By B. Merrill Ricketts, M. D., of Cincinnati. [Reprinted from the *Journal of the American Medical Association.*]

Aneurysm of the Aortic Arch. Ligation of the Right Subclavian and Common Carotid Arteries. By B. Merrill Ricketts, M. D. [Reprinted from the *Journal of the American Medical Association.*]

Rectal Carcinoma with Subsequent Colotomy. By B. Merrill Ricketts, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

Cranial Injuries of Childhood and their Treatment. By B. Merrill Ricketts, M. D. [Reprinted from the *Virginia Medical Semi-Monthly.*]

The Evolution of Modern Therapy. An Address read before the Society of the Alumni of the Medical College of Virginia. By Simon Baruch, M. D. [Reprinted from the *Therapeutic Gazette.*]

The Lateral Route for the Removal of Cervical Growths. By Edmund W. Holmes, M. D., of Philadelphia. [Reprinted from *International Clinics.*]

New Inventions, etc.

AN ADJUSTABLE NASAL SPLINT.*

BY JOHN W. FARLOW, M. D.,

BOSTON.

DR. FARLOW: I would like to present an adjustable nasal splint devised by Dr. R. A. Coffin, of Boston, and made by Codman & Shurtleff. As the illustration shows, it consists of two nearly flat pieces of perforated silver, between which is an oval spring of composite metal, which has running through it a small rod, headed at one end, and having a thread and nut at the other. By turning the nut with the key the blades of the splint may be separated to any desired width.

As advantages over the ordinary hard-rubber splint may be mentioned: First, the blades may be very closely approximated, thus allowing it to be introduced with ease; second, it may then be adjusted to any width; third, the patient can breathe easily through it and also irrigate the nostril; fourth, the even pressure of the flat blade against the sæptum makes perforation less likely, and the sæptum unites smoothly and in a vertical position; fifth, in case it is necessary to fracture the maxillary ridge, the splint holds it well in place, as the blades come well down on the floor of the nose.

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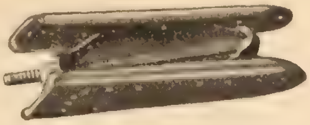
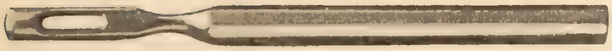
* Presented at the twenty-first annual congress of the American Laryngological Association.





The patients on whom Dr. Coffin has used it all agree that the air passes freely through the splint while in place. The fact that the blades are expanded by an oval spring allows it to adapt itself more to the lateral wall, thus making it more comfortable to the patient. For cleaning after removal, it can be placed in boiling water and afterward in peroxide of hydrogen.

THREE IMPROVED INSTRUMENTS FOR USE IN THE OPERATION FOR THE REMOVAL OF LYMPHOID GROWTHS FROM THE VAULT OF THE PHARYNX.*

By Thomas R. French, M. D.

These three instruments, which I take pleasure in presenting to the association, have recently been evolved from the cutting forceps and mouth gag which I designed a number of years ago for use in the operation for removal of lymphoid growths from the pharyngeal vault. The bite of the cutting end of the forceps has been gradually extended until, as used at present, the blades embrace, practically, the entire length of growths in the pharynges of children (Fig. 1).

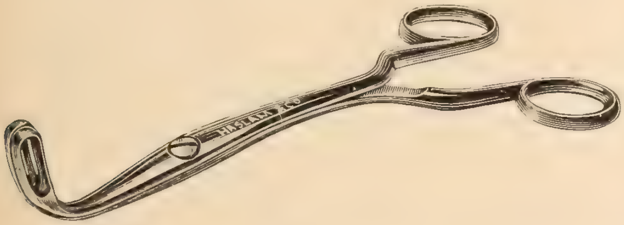


Fig. 1.

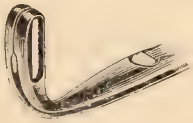


Fig. 2.

The forceps is made heavier than the original instrument. The fenestræ are larger, and therefore the curve of the distal end is greater. The plates forming the back of the oval rings are widely separated, so that a large part of the growth can be grasped and held while the cutting edges are dividing the growth at its base. The bulk of the lymphoid mass is removed with the first cut, and that which remains attached to the posterior wall can be readily and rapidly removed with a few bites of the forceps. While the cutting blades are made broad to give them strength, I have but rarely been obliged to use smaller forceps to eradicate the tissue lying behind the Eustachian eminences. The curve of the cutting edges seems to be well adapted to the curve of the posterior wall and vault in most children's heads, and the cut surface is left clean and smooth. The vault is usually completely cleared while the growth attached to the posterior wall is being removed, but occasionally a few taglike bits of tissue are left, which can be quickly and certainly removed by means of the second forceps (Fig. 2).

This forceps is exactly the same as that which has just been described, except that the cutting edges are confined to the curve at the distal extremity of the instrument. With the child in the upright position so little bleeding occurs that even very large growths can be most thoroughly eradicated with this forceps, in practised hands, in from ten to fifteen minutes.

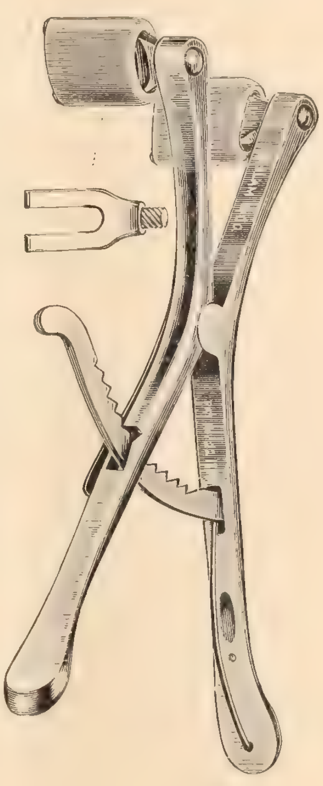


Fig. 3.

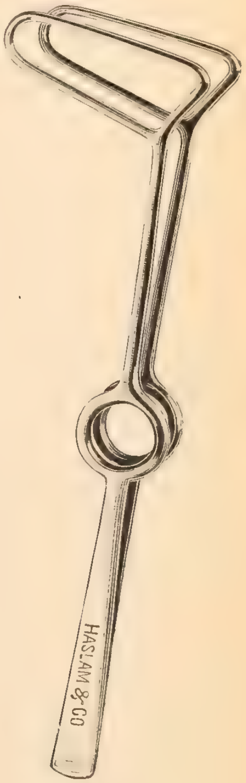


Fig. 4.

The mouth gag (Fig. 3) is made heavier than the original instrument to accommodate a strong ratchet catch, which holds the blades much more securely. The spread of the arms is great enough to permit of its use in adults. As all the parts in the new model are detachable the instrument can be made aseptic.

A Modification of Bosworth's Nasal Speculum.—The modification consists, first, of a backward angular projection of the nasal blades, and second of the use of rings instead of discs for the grasp of the thumb and forefinger (Fig. 4). The object of the prolongation of the nasal blades is to secure a better expansion of the nostril and to prevent the heels of the blades from slipping into the nasal opening.

All the instruments described above are made by Fred. Haslam & Co., of Brooklyn.

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* Presented at the twenty-first annual congress of the American Laryngological Association.

Miscellany.

The Term "Degenerate."—The London correspondent of the *Medical News* for August 5th writes the following pertinent comment on a recent sensational poisoning case in London: "Both the experts who examined Mary Ansell, hung last week for the poisoning of her sister, declared themselves unable to find any ground for regarding her as insane, and as against the statement of Dr. Nicolson and Dr. Brayn, both of Broadmoor Asylum, there is nothing to be placed except the mouthings of that spectacular alienist, Forbes Winslow, who was sure she was a 'degenerate' without ever having examined her. Public opinion generally acknowledges the justice of the sentence. Almost the only exception is the well-meaning but unbalanced *Daily Chronicle*, which came out with an editorial shriek a column long, protesting in tones that remind us of our own transatlantic hysterics on the same subject, against the execution of *any* woman, for no matter what crime! 'Degenerate' is a very pretty term of such elastic application that it can be made to apply to almost any case, and like the bulk of the Lombroso-Nordau vernacular is of little more scientific value than 'crank.' Certainly it is utterly insufficient to base a plea of irresponsibility upon, in the case of a deliberate cold-blooded murder for a purely mercenary object. If this be 'degeneracy,' then it is an element which the law does well to assist in eliminating."

The Stemming of the Tide of Criminal Abortion.—Dr. Henry T. Byford (*Western Medical Review*, July 15th) refers to the two classes of women who approach the physician in the hope of having abortion procured—viz., the married and the unmarried. In the former class there can be but rare occasions when operation is justifiable, and these have been well defined, and the operation should never be undertaken save as the result of a consultation. Of the latter class the author says:

"But the other far more interesting class of unmarried woman, with whom it is make or break, do or die, can not be disposed of in an offhand manner. Those who have loved not wisely but too well, those who have been thoughtless and reckless because they were young and uninstructed, yet who have social relations that would make a disgraced life more unbearable than death, can not be dismissed with the words: 'You have done wrong and you must take your punishment. Do not expect another to kill the offspring of your sin for you.' She can not do this for herself, but she does expect some one to do it for her; and some one else usually does. How much shall we blame her? If she can not get rid of her disgrace, she may, if courageous, kill herself. How much shall we then blame her? The world does not blame men very much who have yielded to less temptation. She may not have an opportunity, nor the means, to go away and safely and secretly bear her child. Her life must be ruined or an abortion must be produced. She will go to a charlatan or the professional hypocrite, and will have a sound passed, and run considerable risk of life. I now remember two cases in which girls of good morals, if we except one lapse, died in their father's houses of septicæmia due to abortions produced at physicians' offices, in which cases the fathers knew nothing of the cause of the illness. I remember a hired girl brought to the hospital dying of septicæmia from abortion, because she had not dared to tell of her trouble and employ proper treatment. I was called to see a case at the house of an abortionist, in which I found the intestines hanging out of the vagina. At the post-mortem a catheter was found under the liver. The posterior wall of the uterus had been curetted nearly all away, and the intestines had been mistaken for fœtal parts.

"Such deaths are constantly occurring in our larger cities and only one or two interested parties usually know the facts. Many a sterile wife is going about to-day because of pelvic disease caused by abortion before or after marriage. But when, after wasting much strength and valuable time in trying to arrange some way with such a patient of avoiding an abortion, and after preaching to her, frightening her, and refusing to help her get rid of her disgrace, I send her away, I feel as if something was wrong with myself or with the world, that her wrong could not in some way be righted, that she must go and put her life in the hands of a man who makes abortion a business because he has not the education and skill to make a living without becoming an abortionist.

"If public opinion can not be changed, if there is no way of infusing any mercy or tolerance into it, then public opinion should wear blue glasses that it may not distinguish all that is going on. One of the greatest possible charities would be endowed hospitals in various parts of the country where such cases could be secluded and their children be taken care of, that there might still be preserved to them a chance of enjoying life. I remember when one of our largest and best-known hospitals in Chicago, supported by a religious institution, refused to take illegitimate cases of labor. I sincerely hope that the ministers will have some helpful suggestions to give us who are the first to see such cases, and I sincerely wish that in imitation of Christ of the New Testament they would preach tolerance and mercy to this class, for I have found that they can not be influenced by fear, and can only be helped by mercy. They keep away from the clergyman, and he practically knows them not; they conceal themselves from the world, and the world regards them only as strangers, and smiles and gossips when it discovers one of them. If all cases were treated publicly, the conditions would be better than they are now, for not only would the victims be saved physically, but I imagine that so many families would have the record of a black sheep at some time or another that they would forgive others that they might themselves be forgiven."

Sanitary Education of the Public in Indiana.—The State board of health of Indiana has issued a very comprehensive circular concerning small-pox, dealing with vaccination, the diagnosis of the disease, and general directions for the management of small-pox cases, including isolation, care of the sick-room, disinfection, etc. Appended to the circular is the following:

"*Address to the Public by the Indiana State Medical Society, upon the Prevention of Tuberculosis and Small-pox.*—It has ever been the duty and the pride of the medical profession to try to protect the public against avoidable diseases, bodily injuries, and unsanitary methods and conditions of life. The physician has always been taught, and the true physician has always acted upon the conviction, that he was the guardian of the public health, and that his constant endeavor should be to prevent as well as to cure disease. The Indiana State Medical Society, now gathered in its fiftieth annual meeting, having heretofore repeatedly, as the times seemed to indicate, exerted its influence to promote the public health, and being mindful of its continuing duty in this respect, feels called upon to address the public upon the prevention of two most serious diseases, small-pox and tuberculosis; the one, the pest of the last century but now happily avoidable by well-known means, the other the present but not hopeless scourge of our race. The State Medical Society feels warranted and impelled to address to the public the following proposition concerning tuberculosis: 1. That tuberculosis is caused by certain known germs. 2. That while heredity may in many instances furnish a favorable soil for infection, in a large proportion of the cases the disease is acquired after birth. 3. That the germs are present and demonstrable in the products thrown off from the seat of disease in men and animals. 4. That these germs may, especially within doors, retain their life and virulence for a long time, being demonstrably capable of reproducing the disease. 5. That while in most cases it is impossible, on account of the insidious development of the disease, to demonstrate the exact time and place of infection, the fact of such infection is unquestionable. 6. That by proper and simple means, thoroughly carried out to prevent the scattering of these living germs from men and animals, the danger surrounding persons and animals so affected, and the spread of the disease to others, may in large measure be prevented. 7. That a rational manner of life, as regards the simple, fundamental factors of health and development—namely, food, rest, avoidance of nervous overstrain, and abundance of pure air, especially during childhood and youth—will do much to fortify the body against tubercular infection. 8. That the society does, upon the basis of these facts, invite and urge the public to join with the physicians and sanitary boards of the State in instituting and carrying out the rational measures having these happy ends in view.

Concerning small-pox, the committee says: 1. That the ordinary sanitary measures thoroughly applied, though of the highest value and by no means to be neglected, have nevertheless not proved sufficient to control the spread of small-pox. 2. That in vaccination and revaccination, accurately and thoroughly applied, there is an almost absolute preventive of small-pox. 3. That though with the lapse of years after successful vaccination the protective influence may decline and small-pox may be contracted, the disease is robbed of most of its dangers. 4. That properly applied, in the hands and throughout under the direction of competent physicians, vaccination is attended with but insignificant risks, the disease-preventing and death-preventing effects vastly outweighing such risks. 5. That upon the basis of these convictions the State Medical Society does invite and urge the public to a full confidence in the preventive value of vaccination against small-pox, and does urge the public to relax in no direction its vigilance in the carrying out of this disease-preventing and life-saving measure.

Death of Dr. Max Thorner.—The *New York Times* for August 28th announces that Dr. Max Thorner, of Cincinnati, was found dead in a bathroom on the 27th inst. Dr. Thorner held the chair of laryngology in the Cincinnati College of Medicine and Surgery. He was a fellow of the American Laryngological Association, of the American Laryngological, Rhinological, and Otological Society, and also of the Berlin Laryngological Society.

Execution by Suggestion. The *Indian Medical Record* for July 26th is authority for the following:

"Many years ago a celebrated physician, author of a work on the effects of imagination, wished to combine practice with theory in order to confirm the truth of his propositions. To this end he begged the minister of justice to allow him to try an experiment on a criminal condemned to death. The minister consented, and delivered to him an assassin of distinguished rank. The *savant* sought the culprit, and thus addressed him: 'Sir, several persons who are interested in your family have prevailed on the judge not to require of you to mount the scaffold, and expose yourself to the gaze of the populace. He has, therefore, commuted your sentence, and sanctions your being bled to death within the precincts of your prison. Your dissolution will be gradual and free from pain.' The criminal submitted to his fate, thought his family would be less disgraced, and considered it a favor not to be compelled to walk to the place of public execution.

"He was conducted to the appointed room, where every preparation had been made beforehand. His eyes were bandaged; he was strapped to a table; and at a preconcerted signal four of his veins were gently pricked with the point of a pen. At each corner of the table was a small fountain of water, so contrived as to flow gently into basins placed to receive it. The patient, believing that it was his own blood he heard flowing, gradually became weak, and the conversation of the doctors, carried on in an undertone, confirmed him in his opinion. They receded by degrees, and continued to lower their voices; and the stillness which reigned in the apartment, broken only by the dripping fountains, the sound of which was also gradually lessened, so affected the brain of the poor fellow that, although possessing a strong constitution, he fainted and died, without having lost a drop of blood."

Immoral Molluscs.—The *British Medical Journal* for August 12th actually devotes a leading article to The Abandoned Oysters Bill. We have heard of a man being described as a "loose fish"; was it because he had been making too free with "abandoned oysters"? Oysters, it is true, possess, by common repute, aphrodisiac properties, but that surely is an inadequate reason for stigmatizing them as "abandoned."

Somewhat Tardy!—According to the *Medical News* for August 6th, the Liverpool Samaritan Hospital for Women elected the late Lawson Tait consulting surgeon some time after that distinguished surgeon's death.

Why he had Three Lanterns.—The following story, which appears in *Σάλπιγξ*, a Greek journal published in Cyprus, has been sent to us: An embarrassing law in China forces every physician to hang out at his door at night as many lighted lanterns as he has sent unfortunate ones into the other world. One evening a European, a business man living in Peking, went out to summon a physician to attend his wife, who had been taken sick suddenly. He passed many physicians' houses, but feared to enter any of these because they all had a large number of lanterns. Finally he came to one where only three lanterns cast their melancholic shine over the entrance. Our European thought himself fortunate, entered the house of this wise disciple of Asclepias, awoke him, and took him to his own house. While the two were walking along the merchant said, "I presume you are the best physician in this city?" "What makes you think so, sir?" "Because you have only three lanterns at your door, while all your colleagues have dozens of them." "Ah, this is the reason," answered calmly our unsophisticated Asclepias: "the truth is that only the day before yesterday I hung out my sign for the first time, and as yet I have only been called to attend three patients."

Professor Ogston's Address on Surgery at the British Medical Association's meeting at Portsmouth, the subject of which was the Medical Services of Great Britain, has called forth a good deal of commentary. Professor Ogston's practical support of those who declaim about the incapacity of the army doctors by a sort of apologetic "It isn't their fault, but the government's, which does not give such conditions as to attract the best men, or facilities for those who do enter to keep themselves up to the mark," draws forth in the *British Medical Journal* for August 19th the following energetic protest (much of which has a bearing on army medical officers in this country) from a correspondent signing himself "Zoji La":

"As a member present at the meeting in Portsmouth and on again reading Professor Ogston's address, I, in common with many others, consider it very uncalled for and most inopportune. It bristles with errors and inaccuracies strange, indeed, in one in the position of an Aberdeen professor. According to him, so unpopular have the naval and military services become that for the past three decades only men of inferior qualifications have been induced to present themselves for examination; this is utterly untrue, unless the profession is prepared to admit that degrees in arts and medicine of the universities of England, Scotland, and Ireland, diplomas of the several colleges, including fellowships, can be classed as inferior qualifications. He states that after a few years' experience of the services men who enter admit that they have made a mistake and would gladly go if they could; this is sheer nonsense. Why don't they go? Why not sacrifice a few years for 'a comparatively unpromising post in civil life'? Even, according to him, if they do leave the service in the 'prime of their abilities,' all except a gifted few are found to have so degenerated as to be utterly unfit to compete with their civil compeers; the professor may be assured these compeers find retired army medical officers when he competes against them not so dormant as he imagines! He would also have the public believe that the army medical officer is only called upon to treat minor ailments. A more erroneous statement could hardly be made; he seems unaware of the fact that at Portsmouth and many other military stations special hospitals exist for the treatment of the ailments of women and children. Is the enormous experience of army medical officers in tropical diseases to be ignored as well as in the injuries incidental to active service? I would also inform him that excellent surgery on the brain, thorax, and abdomen is carried on outside Netley by juniors, who are not restricted by seniors as in many civil hospitals. He declares that an ambulance development will only bring wounded men to surgeons unfit to treat them, and compares the medical services of to-day unfavorably with what they were fifty years ago. How any man in his position could venture to make such wild assertions passes comprehension. Does he forget that fifty years ago the death-rate of the European army in India often mounted to 89.42 per thousand, as against 18.99 at present? Is he aware that among a large number of wounded during the Northwest Frontier campaign, and notwithstanding difficulties which hospital surgeons in this country can hardly realize, the officers who had lived a 'life of stagnation' reported their hospitals free from septic contamination, without a single case of pyæmia or tetanus? Let Professor Ogston show better results anywhere. Notwithstanding that he discourses on inferior qualifications, stagnant lives, being fifty years behind the times, inability to undertake surgical procedure of any magnitude, etc., he nevertheless admits that many of the best men in the profession are in the services, who carry out work of the highest order for small reward, etc. Surely such statements are slightly inconsistent! It is impossible here to notice all the misstatements; but his statement that the weakest men who enter the Indian service are of a class superior to the best who enter the Royal Army Medical Corps is ridiculous. I freely admit there is ample room for improvement in the construction, equipment, etc., of our military hospitals; that field hospitals and bearer companies should be better organized and more frequently exercised; also that post-graduate courses for medical officers are most desirable. But such reforms are more likely to be delayed than furthered by exaggerated statements and reckless assertions; and meanwhile good candidates are scared from the military medical service. The Royal Army Medical Corps have the greatest confidence in Lord Lansdowne, and feel he will effect all real and needed reforms as soon as practicable, notwithstanding Professor Ogston's tirade."

The Abuse of the Army Surgeon.—As a specimen of the poor taste with which the army medical officer is assailed in other countries as well as our own, we quote the following from the *British Medical Journal* for August 19th:

"An Aggrieved Member" of the British Medical Association writes: As a result of Professor Ogston's address comes the inclosed cutting from the Edinburgh *Evening Dispatch*, purporting to give a speech by Sir Arthur Grant, Bart., of Monymusk, at a corporation luncheon given at Aberdeen to a detachment of the New South Wales Lancers, which for unprovoked offensiveness it would be hard to beat. This person, who figures in the *Army List* as honorary colonel of volunteer engineers, and is hardly an irresponsible civilian, is reported to have spoken as follows:

"Professor Ogston, one of the most distinguished surgeons of Europe, had said what, to his personal knowledge, officers of the army had been saying for the last thirty years, that medical officers of the army were ignorant and useless, with, of course, certain brilliant exceptions. There was many and many a man, and many and many an officer's wife, who did not dread being shot or injured, but very much dreaded falling into the hands of the army medical department. For himself, he would much rather be shot by half a dozen Boers than be butchered by one army doctor." [Laughter.]

Upon this the *Journal* remarks: "We do not think Professor Ogston will at all accept this libelous postprandial nonsense as representing his views of the army medical service."

Original Communications.

ATYPICAL FORMS OF PNEUMONIA.

A CLINICAL STUDY.[*]

By E. PALIER, M. D.

PNEUMONIA has been ably and abundantly described by more competent authors than myself, and therefore very little will be said here with regard to typical forms of this disease. But we occasionally meet with an atypical form of this malady, which is apt to baffle and mislead the skilled and experienced practitioner; and this will form the subject of this paper, based upon the study of a hundred cases of pneumonia which have come under my observation within the last few years. Most of the cases occurred under very antihygienic conditions, in the tenement-house districts, without having had the attendance of a trained nurse. This may be of additional interest, so far as results are concerned, corroborating the assertion made by some that in pneumonia the least treatment is the best treatment. The subject will be treated under the following heads:

1. Gastric pneumonia. 2. Cerebral pneumonia. 3. Wandering pneumonia. 4. Abortive pneumonia. 5. Chronic pneumonia. 6. Masked pneumonia.

Cases will be described as briefly as possible to illustrate each variety of the disease, with some general remarks that are relevant to the issue.

1. *Gastric Pneumonia.*—In this, like in any other febrile affection, there is always some disturbance of the alimentary canal, and there is nothing new about it. But we occasionally meet with a case of pneumonia in which the abdominal disturbances are so great as to lead to the belief that the main seat of the disease is in the abdomen. The following instructive case, which will be described at some length, will illustrate this point:

L., a boy, aged six years, born in New York. Family history: Father had been treated by me several months previously for hay asthma, which he stated was his first attack; otherwise, family history is good.

The boy had had measles several years before, from which he fully recovered, and had been a healthy, bright boy up to about ten days prior to the malady in question, during which ten days he suffered from indigestion, his bowels being costive. On February 15, 1897, in the evening, he had a sharp and severe chill which, according to his parents' statement, lasted about half an hour. I saw patient the next day, February 16th, and found him as follows: Face flushed; conjunctivæ red; delirious; temperature, 106° F.; pulse, 140. Bowels constipated. Physical examination negative. Calomel in half-grain doses and phenacetine were prescribed, and patient on the third day was in the following condition: Lying on his back and screaming from pain in the abdomen; bowels had not moved; a flush on the left cheek corresponding to malar bone; temperature about 104°; pulse, 130; and patient's mind clear. Physical examination: Some dullness on percussion and bronchial breathing on right side of chest, posteriorly, below scapula, for an area about two inches in diameter. An examination of the abdomen revealed slight tympanites in the epigastric region and pain on pressure in the same region, but no tumor could be felt. Saw patient again on the next day, February 18th; constipation not relieved, though calomel had been given freely, enemata of water and castor oil and of glycerin administered, and other antispasmodics and laxatives tried. Patient in the same posture as on previous day, and urgently demands to be relieved of pain, which he refers to the abdomen. Physical examination of chest shows dullness and bronchial respiration in the same area as on the previous day. An examination of the abdomen shows it distended, bulging, and tympanitic; pain on pressure all over the abdomen. In such a condition of the abdomen it would be, of course, impossible to feel any tumor even if it were present, unless patient were brought under an anæsthetic. Temperature and pulse nearly the same as on previous day, and the flush on the cheek, by the way, still remaining.

At this stage of the disease Dr. H., a prominent pædiatrist, was called in consultation, and he diagnosticated the case as peritonitis, due probably to appendicitis, and advised an immediate operation. Patient was transferred the same day to one of the city hospitals and operated on immediately for appendicitis by Dr. E. I was present at the operation. Appendix was found healthy, and was not, therefore, removed; there was no peritonitis. The operator thought he found a twisted loop of the small intestines in the epigastric region, but it slipped back into place as soon as he had put his hand on it, and he could not demonstrate it to those present. He was himself inclined to think that there was no serious lesion in the abdomen. Patient died twelve hours later, and autopsy was performed by a coroner's physician. I regret to say that I came too late for the autopsy, but the house surgeon then informed me there was an empyema found in addition to a pneumonia, and that nothing was found in the abdomen. As no notes were taken from the post-mortem, so far as I could ascertain, no detailed information of it can be given.

This case presents a double interest—first, the accompanying empyema; secondly, the severe abdominal disturbances simulating disease in the abdomen.

Let us consider now the first part. The pleurisies occurring in connection with pneumonia are divided by Netter and Lemoine[*] into parapneumonic and metapneumonic. The former occurs with the pneumonia and is not considered as a complication, but as a part of the pneumonic process. When the pneumonia is located at the periphery of the lung, the pleura is more or less involved, and, as Flint expresses it:[†] "In a strict sense, nearly every case of pneumonia is pleuro-pneumonia."

But the parapneumonic pleurisy is very seldom purulent; it is, as a rule, serofibrinous. Thus Schlesinger found only two parapneumonic empyemas in his one hundred and seventy-three cases of pneumonia in children,* whereas the serous variety occurred more frequently. The metapneumonic pleurisy appears after the pneumonia had apparently been resolved, and there was some period of defervescence lasting from a few days to a few weeks, and it occurs mostly in debilitated subjects. Metapneumonic pleurisy is, according to most authors, frequently caused by a preceding pneumonia; and when in pneumonia a decline of fever is followed after a short period by a recrudescence, it is said that pleurisy must be suspected, and in doubtful cases Osler recommends the use of the needle to clear up any doubt. Under the head of wandering pneumonia, however, I will bring cases to show that an exacerbation following a defervescence in pneumonia may be due to a secondary attack of pneumonia. Metapneumonic pleurisies are, as a rule, purulent.

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[*] Read before the Section in Medicine of the New York Academy of Medicine, May 16, 1899.

[*] Lemoine. *Semaine médicale*, vol. xiii, p. 12, 1897.

[†] Flint's *Practice of Medicine*, p. 66

Empyemas are divided by Netter,† on a bacteriological basis, into (*a*) simple purulent, (*b*) tuberculous, and (*c*) putrid.

The latter two do not concern us here and will therefore be omitted. The first variety, namely, simple purulent pleurisy, is the one which, according to most writers, complicates pneumonia. According to Holt, ninety per cent. of empyemas in children are metapneumonic.‡ This seems to be the prevailing view of most authors.*

Thus it will be seen that whereas metapneumonic empyema is considered a frequent complication, especially in children, parapneumonic empyema, on the other hand, is considered to be a rare occurrence; and when it does occur, it is frequently overlooked, and is discovered in many instances only at the post-mortem. A parapneumonic empyema very frequently does not modify the pneumonic signs, and there may be dullness on percussion and bronchial respiration in connection with it,* and hence the reason why it is overlooked.

It would seem to me that when in a case of pneumonia the severity of the symptoms is out of proportion to the extent of lung involved, as it was in my case now under consideration, an empyema can be suspected, and the hypodermic needle should be resorted to in order to make the diagnosis certain.

It must be said here that simple as the operation of inserting the needle is, in private practice, among the ignorant it is not always easily accomplished, especially in the case of children, as some mothers object to their children being punctured; and a friend of mine, an able practitioner, once met with a very unpleasant accident. The father, who was holding the child, suddenly twisted around when the needle was introduced; the needle broke and the distal portion disappeared in the chest and could not be recovered. What the father said and wanted to do to the doctor need not be told.

Let us now consider the other interesting feature of the case—the abdominal disturbances.

In order, however, to facilitate the discussion let us recall to our mind a few physiological data with regard to the vagus nerves. These nerves supply motor, augmentor, fibres to the stomach and intestines; they contain the afferent, sensory, fibres of the stomach at least, the afferent nerve fibres of the intestines not having yet been satisfactorily established; † they contain the inhibitory fibres of the heart, and finally the vagi are potent factors in respiration.

Now it is perhaps needless to say that the nervous energy of any nerve centre, and consequently of all the nerve centres, is limited; for we know well that the nerve centres can do at any given moment only a certain amount of work, beyond which they become exhausted and can do no more. Now, in pneumonia the frequency in respiration is more constantly increased than in any other acute disease. †

It would be unprofitable for us to speculate on the reasons of this phenomenon,‡ but we know that it is so. It stands to reason, then, that in increased respiration there is a greater demand and expenditure of nervous energy in the pneumogastric nerve centres, and the excessive amount withdrawn and spent on respiration would otherwise be transmitted along the augmentor fibres to the abdomen and the cardiac inhibitory fibres to the heart. As it is, the nervous energy transmitted to the abdomen is deficient, and owing to the very same deficiency it does not come down in a regular continuous stream, but in puffs and spasms, and this is also the case with the inhibitory fibres of the heart.

Bearing this in view, we can rationally explain the abdominal disturbances and the cardiac failure in connection with pneumonia. The pain in the abdomen can be explained on the same physiological basis as the pain in the knee in hip-joint disease. In many instances the pain is not due to any abdominal lesion, for all the abdominal symptoms are removed with the disappearance of the pneumonia, but the abdomen being a more sensitive and frequent seat of pain than the chest in those exempt from chest diseases, the pain transmitted to the brain is generally referred to the abdomen. The constipation and cramps are due to the deficiency in the abdominal augmentor nerves, as explained above. The frequent cardiac failure in pneumonia in adults can also be rationally explained on this physiologico-mechanical principle. There being a deficiency in the nervous energy transmitted along the cardiac inhibitory nerves, the regulating inhibitory nerve influences are gone, and the heart thus working for some time gets tired, becomes irregular, and is apt to fail altogether, a similar occurrence taking place when the pneumogastrics are severed. This seems to me to be a more plausible explanation than the toxæmic theory, which claims that the toxines affect the cardiac nerve centres; for, first, it does not explain how this is done; secondly, why is cardiac failure more frequent in pneumonia—where, by the way, the muscular structure of the heart itself is not very often affected,* and paralysis of any muscle or group of muscles a very rare complication—than in other diseases in which general toxæmia is profounder and more marked, as, for instance, malaria, small-pox, etc.; and thirdly, which is the most important objection, why do not the toxines affect the hearts of young children, as it is generally admitted that heart failure is not a frequent occurrence in pneumonia in childhood? † The explanation given above will remove this objection, for the distribution of nervous energy from the higher nerve centres to the body is not the same in children as in adults, and the heart in childhood has not yet become greatly accustomed to the regulating inhibitory nerve influences. The frequency of convulsions in childhood will prove this, as well as explain itself. My theory will also explain why, unlike other febrile maladies, there is no uniform ratio between the increased frequency of the respiration and the pulse in pneumonia, because the nervous energy varies in different individuals.‡ And hence the rational treatment in threatening cardiac failure in pneumonia is with strychnine or nux vomica, which were so highly recommended by the late Alfred L. Loomis, as they cause an increased discharge of nervous energy and lash, so to say, the cardiac nerve centres to supreme efforts to tide over the crisis. Digitalis, which is so much spoken of in this connection, I think is only indicated when the heart's action is irregular, and it can serve only as a heart tonic,* but it does not increase the discharge of nervous energy, and when necessary the two should be combined and the main reliance put on strychnine.

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* Schlesinger. *Archiv für Kinderheilkunde*, vol. xxii, 1897.

† Quoted in *Union médicale du Canada*, vol. xxvi, 1897, pp. 340–344.

‡ Quoted by Barbour. *New York Medical Journal*, vol. lxvi, p. 1057, 1897.

# Keating's *Cyclopædia of Diseases of Children*, vol. ii, Empyema.

‖ *Methodist Episcopal Hospital Reports*, 1887–1898, pp. 543–557; also *Twentieth Century Practice of Medicine*, vol. vii, Empyema.

* Foster's *Physiology*, S. 277.

† Loomis. Pepper's *System of Medicine*, vol. iii, Pneumonia.

‡ It might be said *en passant* that this is probably due to the irritation of the nerve endings of the vagi in the pulmonary alveoli.

Since then I have seen other cases of pneumonia with obstinate constipation and rather alarming abdominal symptoms, both in children and adults; but when one is certain from a careful examination of the abdomen before the tympanites has set in—for then, of course, manipulation of it is not easy—that he could not detect an abdominal lesion, by waiting a little (meanwhile applying hot compresses to the abdomen to relieve pain, and doing whatever else is possible) the abdominal symptoms will disappear either before or with the subsidence of the pneumonia.

By studying the history of the case as described above, with a little carefulness, the diagnosis of an abdominal lesion would not have been made. There was no vomiting in that case, no tenesmus, or bloody stools, and there had been, before the tympanites made its appearance, no tumor or mass.

The twist of small intestine, which the operator claims was reduced as soon as he put his hand on it, could not have been any pathological lesion, for the only thing it could have been is a volvulus, and even this is not so easily reducible without leaving any marks.*

2. *Cerebral Pneumonia.*—Not much new can be said on this subject, as cases of pneumonia simulating cerebral diseases have been described by authors; but a case has come under my observation which so closely resembled tuberculous meningitis that it could easily be mistaken for it. This occurred in a male, two years old, whose family history will be given under another heading, who previously had had cholera infantum, then whooping-cough, followed by diphtheria, and soon afterward by pneumonia involving the whole lower lobe of the left side. A few days after the onset of the pneumonia—the accompanying temperature, by the way, not being above 104°—nervous symptoms made their appearance. There was almost constant twitching of the right upper and lower extremity, grinding of the teeth, and the hydrocephalic cry. Taking into consideration the child's history, the advent of meningitis would not be surprising; but the pupils were found to react to light moderately, and that was, in fact, the only point against meningitis. Patient recovered, but died several weeks later from acute Bright's disease, complicated by pulmonary œdema. In another case, a boy, four years old, simple meningitis complicated the pneumonia, and the patient never recovered.

The meningitis complicating pneumonia is considered by authors to be non-tuberculous,† and there seems to be no relationship between pneumonia and tuberculous meningitis.

3. *Wandering Pneumonia, called by the French pneumonie à réchute.*—Here I shall briefly describe cases in which occurred an exacerbation of symptoms after a crisis and some period of defervescence. Two such cases came to my notice, and in both the pneumonic process appeared in the second lung after it had apparently been resolved in the first. One was in a boy nine years old, who was too weak and small for his age, having previously had a whole list of afflictions,

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* *Dictionnaire encyclopédique des sciences médicales*, t. xxiv, sec. 2, p. 265.

† *Ibid.*

‡ Another theory ascribes the frequent heart failure in pneumonia to the obstruction in the lesser circulation, and assumes that children's hearts are stronger; but we know that in other pulmonary diseases where the obstruction is as great, cardiac failure is not so sudden or frequent; and in diphtheria children are subject to it.

* I use the word "tonic" for the lack of a better one.

* Treves's *System of Surgery*, vol. ii, Volvulus.

† Keating's *Cyclopædia of Diseases of Children*, vol. iv, p. 468.

which had left him in a debilitated condition, and whose family history was not of the best. At first the right middle lobe of the lung was involved; there was great prostration, semicoma, and a temperature of 105° F., and sometimes a little higher. On the eighth day there was a crisis with defervescence and patient apparently convalescent. About thirty-six hours later, however, there was another chill with a recrudescence of symptoms. The patient's prior history made the onset of an empyema very possible, and a thing to be expected. An examination of the chest revealed dullness and bronchial breathing in the left middle lobe. After two days there was another crisis, and patient speedily recovered. The other case was in a younger child with a similar history. The period of defervescence in this case lasted several days, and the second attack, which also occurred in the other lung, lasted for about five days. In both cases the temperature was a degree or two higher than normal during the period of defervescence. The onset of the secondary attack of pneumonia in such cases greatly resembles an attack of metapneumonic empyema, which was referred to above.

It sometimes happens, however, that the pneumonic process involves a second lobe of the same lung before resolution has taken place in the primarily affected lobe. Again, recently a case came under my observation in a girl, seventeen years old, in whom the two right upper lobes had been first involved, and several days later the middle left lobe was attacked. The process in the left lung was resolved on the sixth day, and it was marked by a crisis and a fall of several degrees in temperature. The pneumonia in the right lung, however, persisted several days longer, but finally disappeared, after having lasted for two weeks, and patient recovered completely.

4. *Abortive Pneumonia, called by Dr. Kuhne Rudimentary Pneumonia.*—Under this title I wish to refer to cases which last only a few days, terminating in recovery, and in which the physical signs do not plainly manifest themselves.

Some authors, in forming tables of pneumonia cases, mention cases which recovered on the third day. I do not know whether they mean cases of rudimentary pneumonia, to which I refer, or cases in which the physical signs were plainly revealed. It must not be forgotten that generally the physical signs in this disease do not fully appear before the third day.

Personally, I have not often met with dullness and bronchial breathing before thirty-six hours elapsed after the invasion, and only once seen a fully developed case of pneumonia terminate on the third day.* It is permissible, I hope, to doubt the accuracy of the believers in the abortive plan of treatment, who claim that such or another remedial agent cured the pneumonia in three days. I might mention here a case of another nature, which occurred in a girl fifteen years old—a sister of the little patient who had a secondary attack of pneumonia, referred to above under another heading—who was sick for nine days and recovered, and in whom there were no signs of lung consolidation, there being right along in the base of the left lung crepitant râles, or râles at the end of inspiration, heard generally at the initial stage of pneumonia. The onset, termination, and symptoms in this case remove any doubt in my mind as to its nature. But what I wish to refer to here in particular is a case of the following kind, which is often very puzzling:

A boy, ten years old, was sent out of an orphan asylum on account of an epidemic of typhoid fever which broke out there. Seven days later the boy became ill rather suddenly, according to the mother's statement, with a chill and fever. I saw him on the second day of his illness, when he had a temperature of 103°; pulse 110, cheeks slightly flushed, headache, and general weakness, but no pain anywhere in particular. Tongue only slightly coated, and very little disturbance of the alimentary canal. No throat inflammation. An examination of the lungs revealed a few transitory bronchial râles; patient had slight cough and increased frequency in respiration. This lasted for three days, at the end of which there was a crisis with profuse sweating, defervescence; and at the end of four days patient was well, except for weakness. At the end of the third day I detected a rude prolonged expiration, but not bronchial, which I had not noticed before, though carefully examined, at the inner border, near the inferior angle of the scapula, on the left side, which disappeared later.*

The fact that the patient came from a locality visited by typhoid fever makes the case more perplexing. But taking into consideration the sudden onset and termination of the disease, and the very slight disturbances of the alimentary canal, I think that typhoid fever can be safely excluded. The diagnosis then hinges between pneumonia and simple continued fever, an affection on which so much stress is laid by some authors.† Were it not for the trustworthiness and eminence of the authorities who describe such a fever, it might be permissible to doubt its existence, for it is difficult, theoretically, to conceive a fever without an underlying cause, and it might be questioned whether many of the so-called simple continued fevers are not really cases of rudimentary pneumonia. On the other hand, since under this form of pneumonia I understand cases in which the physical signs are not fully revealed—for otherwise it is no more rudimentary, as said above—the diagnosis of pneumonia in such cases is very uncertain, and we are not certain that it is not something else. As these diseases seldom cause death, we have no post-mortems to settle the diagnosis.

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* This occurred in the first patient described under wandering pneumonia, who, a short time ago, had another attack of pneumonia in left middle lobe. Crisis occurred on third day, and resolution at the end of four days, but it was not due to special therapy.

* In young children the respiration in this region is normally very often rude, almost bronchial, and hence very frequently deceptive. But the rudeness is generally on forced respiration, when the child cries, and very seldom on forced expiration.

† Pepper's *System of Medicine*, vol. i, pp. 231–236.

5. *Chronic Pneumonia.*—By this I do not mean the chronic interstitial fibroid pneumonia described by writers, but I propose to consider here both croupous and catarrhal pneumonia which are subacute from the onset and last for months and sometimes for years, terminating very frequently in recovery. Some of these cases are attended with hæmoptysis, sometimes very profuse, and some run their course without any hæmorrhage. These cases closely resemble pulmonary tuberculosis, both the acute and the chronic, with which they are frequently confounded by physicians—a point to which I shall revert soon.

A brief description of some cases will elucidate the subject better:

Mrs A. L., mother of the little patient mentioned under cerebral pneumonia, had been in good health prior to her illness in question, and her family history, according to her statement, is good. She became ill suddenly with a chill, pain in the left side, cough, headache, and weakness; she would, however, creep around the house, and even go out for treatment at a dispensary. I first saw her in this affection, when she had been sick already a few weeks, and found her as follows: Pulse, 110; temperature, 102°; greatly emaciated, headache, pain on swallowing, and exhaustion. An examination of the throat revealed congestion and redness of the pharynx, and the lungs were in the following condition: Dullness on percussion and tubular breathing at the base of the left lung posteriorly extending to the side and in front as far as the nipple. Above this consolidated area, in a zone about two inches, were heard fine crackling râles. At the apex were heard a few coarser râles, which, however, were not permanent and frequently shifted their position; the same in the right lung as in the apex of the left. Patient was sick with slight modification of symptoms for four months, after which she completely recovered. During her illness patient had several attacks of hæmoptysis, losing each time about four ounces of blood. This was easily controlled by twenty-drop doses of the fluid extract of hydrastis, every three hours. Sputum, which was thick and greenish-yellow, was examined by the board of health; no tubercle bacilli.

A similar case occurred in another woman, thirty-nine years old. This patient had been suffering previously from a cough, and, as I had not seen her before her malady in question, I can not say anything with regard to this cough. This woman's malady was also rather sudden in onset. Her pulse and temperature were of the same range as in the other case; but in this woman temperature and pulse would sometimes drop to normal, and she would have frequent rigors lasting for about an hour, especially in the afternoon, when her temperature would rise a few degrees, and her pulse increase; but there was no periodicity in her chills, and malaria can be safely excluded. In this case both lungs were involved, the left posteriorly from the scapula to the base, and on the side and in front as far as the nipple. There were in this area signs of consolidation, and above, a narrow zone of fine crackling râles. In the right lung there was a consolidated area along the vertebral border of the scapula. A few transitory bronchial râles would be heard in the healthy portions of the lung. A hypodermic needle was introduced in the consolidated lung area, and a few drops of serum, slightly tinged with blood, withdrawn. The sputum was examined by the board of health, and no tubercle bacilli were found. The woman recovered after eleven months' sickness. I have examined her recently, a few months after her recovery. Her pulse and temperature are normal, and she attends to her housekeeping. She feels pretty well, but is troubled a little with her old cough, and the recent examination of the lungs showed rather faint inspiration and prolonged harsh expiration, but not tubular, in the left lung posteriorly. The area that was affected in the right lung can not be distinguished from the rest of the lung. She has now some bronchitis and emphysema, which is probably the cause of her old and new cough.

This case was diagnosticated as consumption by an old practitioner with an immense practise. Such cases must be regarded as subacute or chronic cases of croupous pneumonia. The accompanying pleurisy is not more than in any ordinary case of acute pneumonia peripherally situated. The slight bronchitis is what one would expect in such cases, as some authorities claim that even acute lobar pneumonia is accompanied by a greater or less degree of bronchitis, and Aufrecht believes [*] that pathologically we can not draw a line between catarrhal and croupous pneumonia. And, clinically, we sometimes meet with a case in which the consolidated area of lung is too extensive for a lobular pneumonia, and the various and numerous râles all over the rest of the lungs are too pronounced for a lobar pneumonia.

In another case, subacute lobar pneumonia in the middle and partly in the upper lobes of both lungs, occurred again in a woman thirty-two years old, whose history was good, and lasted nearly three months, terminating in recovery. Four cases of chronic catarrhal pneumonia, some of them attended with fibrinous pleurisy, have come to my notice, one in a boy four years old, another in a young woman, and the other two in old men. The boy had attacks of epistaxis, and the other cases were attended with hæmoptysis, and in one case, a man aged fifty years, it was very profuse. In this case both lungs were involved and it was accompanied with fibrinous pleurisy and abundant, very fœtid, expectoration; there was considerable increase in temperature and pulse. There were no tubercle bacilli. The patient recovered after four months' illness.[†] In the other cases, in two of them the left lung being principally involved, there occurred recurrent attacks of lobar pneumonia. The child's case is interesting. He had been sick for two years when I first saw him. There was an increase in pulse and temperature, and cough, with physical signs of bronchopleuro-pneumonia in both lungs. While under my observation a lobar pneumonia was ingrafted, involving an extensive portion of the right lung at the base, and there was a recrudescence in pulse and temperature. The mother, however, did not notice the child's aggravated condition, and when asked the reason, she answered that the child had had fever and cough for the last two years, and also several attacks of pneumonia, from what the doctors had told her, so that she did not consider the child's aggravated condition as anything extraordinary. The patient recovered from the lobar pneumonia on the ninth day and was under my observation for over half a year, occasionally improving somewhat, and relapsing again. The same results with regard to the other two patients, who also had several attacks of lobar pneumonia.

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[*] *Wiener medicinische Wochenschrift*, vol. x, 1897, p. 1090.

[†] This case was seen in consultation with Dr. A. Jacobi.

Subacute croupous pneumonia resembles in its physical signs the advanced stage of chronic pulmonary tuberculosis; the symptoms also closely resemble chronic tuberculosis. Sore throat, which is regarded by many as a characteristic of consumption, may occur also in pneumonia, and some cases of consumption run their course to a fatal termination without sore throat. The difference between the two affections is in the mode of the onset, that of subacute pneumonia being rather sudden, and that of chronic tuberculosis being insidious. A microscopic examination of the sputum will settle doubtful cases.

Chronic catarrhal pneumonia resembles in its physical signs and symptoms acute pulmonary tuberculosis, and it resembles the initial stages of a diffuse chronic pulmonary tuberculosis not only in its physical signs, but sometimes also in its symptoms. The only point of difference between the two affections is the emaciation. There is always emaciation in consumption, whereas in chronic catarrhal pneumonia it is not well marked. A microscopic examination of the sputum will make the diagnosis certain.

Before dismissing the subject, I will mention in this connection unresolved acute pneumonia. Those are cases in which the symptoms are very severe at first, and in several days there is a crisis with some defervescence, but not complete, and resolution is delayed sometimes for weeks, the case terminating according to the condition of the malady and the patient. One case is worth mentioning.

It occurred in a boy five years old, whose mother, Mrs. A. L., was previously sick with chronic pneumonia and was described above, and whose little brother was mentioned under cerebral pneumonia. Both children sickened nearly at the same time. In this boy now in question, the whole right lung was involved, and the symptoms were very severe. On the tenth day there was a crisis with defervescence, but not complete, and some resolution in upper part of lung. A few weeks later there was an accumulation of some fluid in the affected side of chest.

I happened to absent myself from town for a few days, and the case passed into the hands of another physician. He tapped the chest and withdrew a few ounces of seropurulent fluid.* I subsequently learned that the patient recovered.

6. *Masked Pneumonia.* — Ordinarily the physical signs in pneumonia do not appear till some time elapses after the onset of the fever, as mentioned above; but we occasionally meet with a case in which the physical signs do not appear till the crisis, and then even imperfectly. Such a case came to my notice in a boy, eighteen month old. The invasion was sudden and the temperature high. The whole physiognomy of the case was that of pneumonia, so much so that even the women in the house diagnosticated it as such; but there were no physical signs to make a correct diagnosis, though the lungs were repeatedly and carefully examined. On the seventh day, however, I could detect in the left lung posteriorly below the scapula slight dullness on percussion, and on auscultation faint respiration, but no bronchial respiration. On the eighth day there was a crisis, and patient was well on the ninth day. If there could be any doubt in my mind with regard to the physical signs, the termination of the case makes the diagnosis of pneumonia certain. A case of pneumonia in which the physical signs appeared on the sixth day, just at the time of the crisis, is reported by Francis Minot; † but the physical signs, when they appeared, were distinct, and in my case they were imperfect.

This is a brief description of the main forms of atypical pneumonia which have come to my notice, though we might as well say a few words with regard to the temperature, which often is only slightly above normal in the morning and rises very high in the evening, simulating quotidian malaria, and called by some malarial pneumonia. The pain is sometimes capricious; aside from the abdomen, it is sometimes referred to other parts. One patient referred the pain to her neck, and did not suspect there was any trouble with her lungs. It appears that she had had some trouble with her neck before. Another patient, again, referred the pain to the other side.

The mortality from pneumonia in children is variously estimated by different authorities from one per cent. to 4.8 per cent. According to von Ziemssen, it is 3.3 per cent. In my own cases I have not met with a case of death from pneumonia in a child when not more than one lung has been involved at the same time, and the mortality, including complications, is as that given by von Ziemssen.

It can be safely said that croupous pneumonia involving not more than two lobes of the same lung in children will terminate in complete recovery, unless it is interfered with too much. As most of my cases occurred in children, it would not be proper to say anything here with regard to adults. Double pneumonia is serious, but in children only two cases came to my notice—one, after the patient, a child two years old, had been sick for four weeks and treated by other doctors. This case terminated fatally after five weeks of sickness. The other has occurred recently and the patient is now tediously recovering.* Only in one case, mentioned above under unresolved pneumonia, was there a collection of seropurulent fluid in the chest cavity. Now, taking into consideration the fact that most of the patients lived amid very antihygienic surroundings and many of them were in a debilitated condition, and yet, to the best of my knowledge, only in the case mentioned above am I aware of pleuritic complications, I am inclined to think that metapneumonic pleurisy is not a very frequent complication, and am tempted to believe that if local applications to the chest of heat or cold, cupping, and other meddlesome interference are avoided, metapneumonic pleurisy will not occur frequently.

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* The advisability of tapping the chest for the presence of such a small amount of fluid might be questioned; but as this does not enter within the scope of this paper it can not be discussed here.

† Minot. Keating's *Cyclopædia of Diseases of Children*, vol. ii, p. 591.

The duration of the disease in my normal cases has been from six to ten days.† The following plan of treatment has been followed: The first few days, liq. amm. acet., combined with sweet spirits of nitre, is given, the dose and frequency according to age and condition of patient; as a rule, however, the minimum doses are used. No antipyretics of the coal-tar products, unless temperature rises above 104° F., then only a few small doses of phenacetin to reduce it one or two degrees. Small doses of calomel in tablet form, in constipation with coated tongue. About the fifth day or thereabouts, if there is great prostration, small doses of tincture of nux vomica, repeated as may be indicated. In adults, when there is flagging of the heart with irregularity, the nux vomica is combined with the tincture of strophanthus or with digitalis and administered till some effect is produced, when the dose and frequency are diminished.

In delayed resolution, when there are râles and difficult cough, carbonate of ammonium is exhibited with advantage, which may be combined with nux vomica. Washing the body with alcohol and water as often as may be indicated frequently reduces temperature without any antipyretics. No local applications of any kind to the chest were used. Very little alcoholic stimulant was given, except when prostration was great, when small doses of brandy were administered, more to ease the conscience than with a view to doing any good. The diet consisted of boiled milk, barley or oatmeal water, according to the condition of the alimentary canal. There is no originality in this treatment; I simply state the plan of treatment and the results, and I think that in a case of pneumonia of ordinary severity no special therapy is necessary or advisable, as the case will, in all human probability, recover with very little treatment. In the case of the child described under masked pneumonia only small doses of calomel and bismuth were exhibited for the alimentary disturbance, as other drugs seemed to disagree with the patient, and were therefore abandoned, and the patient recovered just the same.* This might perhaps have been the same also with the other cases; but somehow or other it is impossible for us to willingly abstain from doing something for our patients.

The golden rule to be followed in the treatment of croupous pneumonia, especially in childhood, is to interfere with the course of the disease as little as possible, unless interference is absolutely indicated.

191 Henry Street.

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* This patient recovered completely in about seven weeks.

† Except the cases mentioned under abortive pneumonia and chronic pneumonia.

* The disturbances of the alimentary canal, by the way, in this case made it still more perplexing before the appearance of the faint physical signs and the crisis.

HYSTERICAL BLINDNESS.*

By ARTHUR T. MUZZY, M. D.

In studying the subject of hysterical affections of the eye I have met much difference of opinion as to its real frequency. From the fact that hysteria simulates nearly every organic and local disease, it is not strange that some confusion is met with in the study. No doubt, cases may be forced into the class of hysterical eye troubles by a method of exclusion—that is, from ignorance of the true nature of the symptoms presenting. It is, however, evident from the records reviewed that hysteria affecting the eyes is not very frequent.

While most writers in generalizing state that young girls are the most frequent victims, the cases reported do not support such a statement, as few of such reports are under twenty years, and from this age to forty-five or fifty the numbers run quite impartially. Cases are encountered among males, but only in about the same proportion that holds in hysteria with other and more customary manifestations. De Schweinitz, in his work on the eye, in his brief description of hysterical blindness makes the following points: It occurs usually in girls and women, sometimes in males. The loss of sight is complete and is almost always on one side. The pupil reacts promptly when the sound eye is covered. The ophthalmoscopic picture is normal. Many patients have achromatopsia or dyschromatopsia, and hemianopsia besides. Two points he does not mention are suddenness of the onset and the anæsthesia of the conjunctiva and cornea. Very frequently the blindness is complete at once. And as the vision returns, it may come at the centre of the field or as a contracted field, with a scotoma or blind section near the centre. Many times, however, instead of complete blindness, sudden dimness comes on at first, and deepens more or less rapidly to complete loss. Those observers who speak of anæsthesia of the conjunctiva or cornea say it is characteristic. Yet it is certainly but seldom mentioned, and some note its absence. Another point is sometimes recorded that should prove of considerable help in diagnosis—that is, that during testing by lenses, ophthalmoscope, and perimeter the vision varies, growing worse from the low nervous vitality of the patient, often being accompanied by photophobia and profuse lacrymation. Sachs, in his paper before the Ophthalmic Section of the academy last December, stated that a strong argument for hysteria in any eye case was an unusual association of symptoms with great variation in the symptoms. The prognosis in all forms is good, though the condition may persist for months, and even years.

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† Read before the Society of the Alumni of the City (Charity) Hospital, May 10, 1899.

Of the forms in which hysteria affects the eye, by far the most frequent is concentric contraction of the visual field. The next in frequency is disturbance of the color sense—achromatopsia and dyschromatopsia. Frequent mention is made of a true functional ptosis, and a few record paralyses and paresis of the recti muscles, especially the external or abducens. Buchanan, in the *Lancet*, describes quite at length paralysis of both abducens, and Pooley, in the *Medical Record*, refers to paralysis of one. Baruch and Peck, in the *Medical Record*, also describe the case of a young man of twenty-one years who, with other symptoms of ocular hysteria, had diplopia. Hemianopsia is recorded by a few, though a true functional hemianopsia is doubted by many of the best observers. Noyes, however, refers to such a condition reported by Pflüger, and Dana also mentions its occurrence. Lagrange describes with much care hysterical uniocular diplopia. This strange phenomenon is of two kinds. The majority are of optic origin, with irregular refraction, due generally to spasm of accommodation, and this causes two or more images on the retina. This optic or peripheral form is mostly a polyopia. The second variety and still more rare is central and due to irritation of the visual centres, described by Duchesne, of Boulogne, in 1864. Lagrange illustrates with the case of a girl of twelve years who, after headache, photophobia of the left eye, and sleeplessness for a short while, was subject to a sudden permanent diplopia of the right eye, which was emmetropic; the vision was only $\frac{1}{5}$. There was characteristic hysterical dyschromatopsia with complete anæsthesia of the conjunctiva. The false image was above and from four to five centimetres distant from the true image, without regard to how far away the object was.

It should be borne in mind also that hysterical manifestations may come on in one suffering from specific disease or cerebral tumor or other organic disturbance of the brain. The diagnosis here often becomes difficult and only to be positively made after careful and more or less lengthy watching and study of the individual case. Hubbell, of Buffalo, in the *Buffalo Medical Journal*, with two other cases, describes as hysterical the following: A young woman of eighteen had sudden complete loss of sight in the left eye, which faded gradually by scotoma to normal vision. This came on immediately after hemicrania. Two years before she suffered from malarial fever and had no previous hysterical history. The left pupil was sluggish when exposed alone.

To still further exhibit the difficulty of diagnosis, I may say that I have under my own observation at present a woman of fifty-five years, showing concentric contracture of the left field with (at her last examination, February 18th) a large central scotoma. The patient's history, given by Dr. Rupp, shows that she is nervous, hard worked, and perhaps unnecessarily anxious, with no clear hysterical paroxysms; but has frequent severe headaches. Five years ago she fell, striking the back of the head, and for a year there was confused vision with diplopia, which gradually passed off. In August of 1898 she suddenly noticed a difference in the vision of the two eyes. Examination on September 22, 1898, by the ophthalmoscope showed fundus fairly normal except a possible smallness and tortuousness of vessels in right eye, especially arteries. Vision, R. E., $\frac{17}{30}$, w. + 72″, 45° = $\frac{17}{20}$, and L. E., $\frac{11}{100}$, w. + 36″ = $\frac{17}{70}$ +. Jag. 12″, with + 20″ = No. 1 slowly. On February 18, 1899, she was again seen. Vision had diminished to R. E. $\frac{17}{100}$, accepting no glass, and left eye saw the large white test card at 4′, but not letters. By perimeter a central scotoma was made out, a white fog with rather sharp limits. The ophthalmoscopic picture was the same as last fall. The pupils were normal and similar in size and action. The examination tired the patient, bringing on photophobia and lacrymation.

Treatment in these cases is very unsatisfactory. Arthur Booth, in the *Medical Record*, promises a good deal with hypnosis or the suggestive treatment. But Millbury, also in the *Medical Record*, fails almost wholly with it. As to other forms of treatment, very little can be said; the general condition of the patient, rest from overwork, nerve tonics, and carefully adjusted exercise, with avoidance of all false and unnecessary excitement, serve best.

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SEASICKNESS.

By J. CARLISLE De VRIES, M. D.,
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Seasickness, or *mal de mer*, is an important subject to consider, as the suffering caused by it is beyond estimate. In a concise manner it may be described as a peculiar functional disturbance of the nervous system, produced by shock resulting from the motion of the ship. It is not a disease of the stomach or alimentary canal, as is erroneously supposed by some, but clearly a functional disease of the central nervous system. By deduction it would seem inevitable that any mechanical agitation of the body, such as is caused by the rolling, pitching, and tremor of a vessel, would primarily and chiefly affect the central nervous system, which is most sensitive to external irritation.

The most prominent symptoms are a state of general depression, giddiness, nausea, vomiting, and derangement of the bowels and urinary secretion. It may be divided into four stages: Depression, exhaustion, reaction, and convalescence. The profession has never been able to solve the problem, and the laity must regard it as beyond human control. The travel across the Atlantic would be considerably multiplied were it not for the terrors of seasickness.

Quite a few are under the impression that seasickness is beneficial; whereas, on the contrary, it is decidedly injurious. After an attack one certainly feels relieved for a time, but very exhausted all the time, and if it were not for the tonic and bracing effects of sea air, one would continue sick even after again regaining *terra firma*. Scientifically there is no more reason for seeking an attack of seasickness than of diphtheria.

My experience with this interesting disease was while surgeon on various transatlantic mail and passenger steamers sailing from New York to Amsterdam, Antwerp, and Southampton. These trips necessitated frequent passages across, up and down the English Channel and North Sea. These two immense bodies of water are rarely calm; generally very rough and choppy.

Vomiting is a symptom of concussion of the brain. Seasickness is a series of mild concussions. Children and the very aged rarely suffer from it. Active cerebral life is more prone (between the ages of twenty and sixty), although I have frequently seen children vomit on shipboard purely out of sympathy, without previous or subsequent illness. It is most frequently seen in those of a highly sensitive and nervous temperament.

One of the very first symptoms of *mal de mer* in certain cases is an abnormal appetite, which is developed as soon as rough water is encountered. The victim is anxiously awaiting the call to luncheon or dinner. He is the first at table and gorges himself, but ere long finds it expedient to immediately and rather suddenly leave the table, a miserable mortal.

Headache is not an essential symptom of this malady. Cerebral congestion and vertigo may be present. Hopelessness is a constant accompaniment of the disease. Pain in the back sometimes is present and precedes nausea and vomiting.

Constipation is a source of much discomfort, and should be relieved. Diarrhœa may, on the other hand, be present. Both result from the same conditions. Life on shipboard illustrates this interestingly. Neuralgic pains, chilliness, flashes of heat, exhaustion, and suppression of the menses are occasionally met with.

The nausea is quickly followed by vomiting, and is often sudden and projectile, as from a central cause. As the vomiting continues, the ejected matter is composed of intensely acid gastro-biliary secretions. All secretions except the saliva are decreased. The appetite is entirely lost, and there is a marked repugnance to food, especially to all forms of fat. The mental depression is now very characteristic. Shipwreck and drowning have no horrors; the victim rather praying for that speedy death to end his miserable sufferings. This condition continues from two to five days, varying in intensity, and followed by reaction. Seasickness can rarely be mistaken for any other condition, although it may simulate gastro-enteritis at first. In seasickness the intense nausea and constipation, the constant and violent vomiting and later retching, and the loathing of food are more pronounced.

In some cases of slight disturbance, a prolonged, even inspiration as the vessel rises, followed by expiration during descent, thus controlling the movements of the diaphragm, is efficacious. It has been stated by Beard, Barker, and others that by the administration of thirty-, sixty-, and ninety-grain doses of bromide of sodium three times daily for a week prior to embarking, and continuing at sea until the danger is past, *mal de mer* would be prevented.

The question arises, When is the danger past? When the sea becomes smooth? When the physiological effects of the bromide are visible? When the patient is stuporous from excessive and repeated doses? And echo answers, "When?" The treatment mentioned undoubtedly bromizes the central nervous system; but does it render it less susceptible to the molecular disturbance of the nervous system caused by the motion of the ship?

In all my fifty-eight voyages across the Atlantic I have never come across a passenger whom this dosage affected, except visibly, by giving him a bromism, and nausea and vomiting just as soon as the steamer entered an area of rough water; also extreme loss of appetite. This is caused by the intensely irritant action of the sodium bromide on the sensitive stomachs of hyperæsthetic and nervous patients.

The bowels must be opened before embarking by either calomel, phosphate of sodium, or a saline purge. An active purge (saline), either Epsom or Rochelle salts, half to an ounce, should be taken the night previous to embarkation, followed by twenty grains of bromide of sodium at 7 A. M. the day of sailing, and this dose repeated one hour before the vessel sails. Remain on deck constantly during the passage across, save for meals and bed. I have had marked beneficial results with this course of treatment in all cases. Vichy and Apollinaris should be indulged in freely throughout the voyage. In those who are seized with *mal de mer* at sea, not having previously undergone this preparatory treatment, aromatic drinks, lemonade and champagne, with imported ginger ale *ad libitum,* are of great value. Where the bromides can not be retained, these will be kept down.

The position of the patient deserves equally to be taken into consideration; the horizontal proving much more agreeable than the erect posture, as it better supports the stomach and other viscera, and prevents thereby, to a certain degree, their disturbance by the oscillation of the vessel.

A general diet, substantial and succulent food, easy of digestion, with Vichy, or, if stimulation is indicated, brandy or wine, is most benefiting and useful. Such a regimen is nourishing and strengthening, does not oppress the stomach, but acts somewhat as a soothing or sedative remedy. Avoid cold food.

Chapman recommends the spinal ice-bag. While this is good and relieves the spinal congestion, its disadvantage is apparent by the fact that the patient is compelled to remain in the close stateroom below; and this confinement should by all means be avoided, as whatever good the ice-bag may do, it will be handicapped by the odors from the galleys, and the smell of stale sea water, which may have previously got in during a violent storm, causing the patient to gag and retch, until removed from these surroundings. The motion of the ship is also least noticeable to the patient on deck, owing to the horizontal position assumed, and the invigorating and tonic effects of the air.

Nitrite of amyl in obstinate cases at sea has been tried with success. It should be given in full doses upon the first appearance of epigastric distress, and repeated as necessary. Cocaine has been recommended, but I have never found it beneficial.

In very severe and obstinate cases, after everything has been tried without success or relief, the patient's greatly enfeebled condition and the constant retching demand morphine, but great care must be exercised in its exhibition. The patient should be kept under its influence at least twenty-four hours.

EPIPHYSEAL SEPARATION OF THE ENDS OF THE HUMERUS.*

By MICHAEL LUCID, M. D.,
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The subject which by your courtesy I am at liberty to introduce for discussion to-day is one which is so full of interest, and so important alike to physician and surgeon, that it has been selected by me not alone because of the paucity of research upon the conditions of which I desire to make mention, but because my attention has been attracted recently by some very unique and interesting cases, and, too, because the ever-widening scope of usefulness of surgical methods and appliances occupies the foremost place in the work, the thoughts, and the discussions of practical surgeons.

Having accepted your invitation, I shall discuss only the practical anatomical phases, ætiology, diagnosis, and treatment equitably, with a view of formulating such conclusions as may seem justified, and with the hope that I may be able to present an outline of this subject which will prove of interest, invite your criticism, and thus enable me to share your experiences and express the desire to stimulate in the profession a more careful and scientific study of the available methods of diagnosis and treatment.

It is indeed strange that so little has been written upon the subject of epiphyseal separation of the ends of the humerus, either by remote or modern surgeons; but the epiphyseal structures are small, and we are ever conscious of the fact that nowadays most surgeons are looking for larger game.

The subject of epiphyseal separations is still in need of further study, and the knowledge necessary to insure positive results can only be gained by the careful study of many cases upon the post-mortem table.

Nothing systematic, save the brief references extended by Hamilton, Smith, and Moore, has, to the writer's knowledge, been published regarding epiphyseal separation of the ends of the humerus.

Appreciate, if you will, the positive fact that no surgeon has, after improper reduction and faulty fixation of the injury referred to, had perfect movement, and you have sufficient data to justify you in concluding that in no field of general practice is harmonious action of the physician and surgeon more necessary for the results demanded and justly due the suffering patient.

Many are the problems that present themselves for solution in the management of cases of epiphyseal separation of the ends of the humerus, for the proper determination of which all of the practitioner's resources are requisite. Few cases in bone surgery make greater demands upon his tact, knowledge, experience, and judgment, or in which the necessity for intelligent and effective treatment is more urgent.

While I am to report but three cases, I find upon consulting the literature upon the subject that it is sufficiently rare to demand your attention, and from such cases I feel that we can draw valuable deductions when associated with allied experiences which, no doubt, many of you have had.

A brief description of the plan of development of the humerus will enable us better to understand the separation of the epiphyses, both at the upper and lower ends of the bone.

The humerus is developed or originally formed from seven cartilaginous centres—namely, one for the shaft, one for the head, one for the tuberosity, one for each epicondyle, and two for the lower articulating ends of the bone.

The shaft is ossified in nearly its whole length at the time of birth. Ossification begins in the centres for the upper end of the bone between the first and fourth years, and they coalesce by the end of the fifth year so as to form a single epiphysis, which finally unites with the shaft about the twentieth year of life.

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* Read before the Oswego County Medical Society, at Pulaski, N. Y., May 9, 1899.

At the lower end of the bone, ossification begins in the radial portion of the articular surface at the end of the second year, and the trochlear portion at the twelfth year; in the internal epicondyle at the fifth year, and in the external epicondyle at the fourteenth year. At the sixteenth or seventeenth year of life all the centres are joined to each other and to the shaft, except the inner epicondyle, which does not unite, by bone, with the shaft till the eighteenth year. It will be observed, therefore, that although the ossification begins in the upper epiphysis first, it is the last to form bony union with the shaft, which process is completed about the twenty-first year of life. It is hence apparent that the superior epiphysis of the humerus comprises not only the head of the bone, but likewise both tuberosities, with that portion of the bicipital groove which is not situated between the processes. Internally, it corresponds exactly to the cartilaginous surfaces of the head of the humerus, but in front, externally, and behind, its line of junction with the shaft passes below the tuberosities.

The supraspinatus and infraspinatus muscles are not, therefore, attached to the lower fragment, nor is there any difficulty in comprehending osseous union, for the head of the bone forms one body with the tuberosities and is richly supplied with blood.

Ætiology.—Epiphyseal separation of the ends of the humerus belongs almost exclusively to the periods of youth and childhood, and is occasioned either by a direct blow or fall upon the shoulder, or by violent wrenching of the arm, as during delivery, causing separation of the superior epiphysis; while separation of the lower epiphysis is the result of a fall upon the elbow, excessive adduction or abduction of the forearm with superextension, or a sudden or unexpected push of the arm which it is unprepared to resist.

Pathology.—Upon dissection in these cases in the young, the head of the os humeri is found broken off at the tubercles, but it remains in the glenoid cavity and does not move with the shaft. The upper end of the lower fragment projects in front, when displacement exists, and is less sharp and angular than in cases of a broken bone. Taking the head of the humerus of a subject ten years of age, parted by maceration, we find the angle made by the junction of the plane projected through the anatomical neck (which makes about two fifths of the whole surface) with the plane passing below the tuberosities measures about one hundred degrees.

The muscles are apt to acquire their greatest tension at the moment of separation, and those whose actions are in direction with the shaft press upward, the head being set upon the shaft at an angle, and, were it not for the muscles attached to the tuberosities, those which act in direction of the shaft would have a tendency to roll the now movable head upon the glenoid surface; but, instead, the muscles attached to the tubercles contract and roll the head in the socket and produce dislocation backward of the facets, which position throws now the superior edge of the diaphysis forward and retains it there. When extension is made, the head works on the projecting angle of the diaphysis, and the tense deltoid muscle, pressing the shaft backward, will restore the rotundity of the shoulder; but the cessation of the extension finds the capsular muscles ready to roll the head out and project the diaphysis forward, and the symptoms return as soon as the extension ceases.

Of the lower epiphysis very little has as yet been written concerning the pathology. The humerus is separated from its cartilaginous expansion at the condyles near the elbow joint, in which case the lower fragment would comprise the entire epiphysis, which is composed of four distinct pieces, but either or both epicondyles may remain attached to the fragment.

Diagnosis.—Notwithstanding the very positive statements with reference to the diagnosis of epiphyseal separation of the ends of the humerus by Sir Astley Cooper, Professor R. W. Smith, and Professor Frank H. Hamilton, one would scarcely suppose that great confusion had existed, and still exists, as regards the exact nature of fracture of the humerus at the point under discussion; but error of diagnosis does occur, and that constantly. I think this results from the fact that a clear conception of the change of position has not been put forth, and more than this, and growing out of it, no method that secures reduction, save that of Dr. Moore's, which is a most effectual one, yet difficult for some to comprehend, has thus far been proposed. The constancy of the symptoms make this condition differ from most that occur in adjoining structures. The chief diagnostic signs of separation of the upper epiphysis from the humerus are: First, an abrupt projection can be seen and felt on the front of the shoulder about one inch beneath the coracoid process, caused by the upper ends of the lower fragment. Second, crepitus, when felt, is of a softer character than in fracture. Third, the end of the shaft is rounded and smooth, not sharp as in fracture, and has the form of a low cone. Fourth, the immediate recurrence of the deformity when the means employed for its reduction cease to be in operation. The most important practical point with reference to the diagnosis is that the accident is apt to be followed by arrest of development if not properly reduced. These diagnostic and unfailing manifestations deserve to be memorized because they exemplify the great difficulty often experienced in diagnosticating exactly the true seat of the solution of continuity and the necessity that these signs should be correctly interpreted. The X rays afford, perhaps, the most positive means for diagnosis.

The simple anatomical fact which affords valuable information with reference to the diagnosis of separation of the upper epiphysis is that the tuberosities of the humerus form a part of the upper fragment.

Treatment.—In view of such a displacement at the upper end of the humerus, the natural mode of reduction would seem to be one that would carry the shaft backward and thus restore the corresponding facets to their normal positions.

The great error that is constantly made is the severe and protracted extension made to reduce the relaxation, which traction may, in a measure, cause the disappearance of the deformity; but the moment the parts are abandoned to the uncontrollable action of the muscles the deformity recurs. The most effectual mode of reduction is by carrying, with moderate extension, the humerus forward and upward. The head will roll upon the glenoid surface in any motion of the arm until restrained by its capsule. Now, then, while the humerus is still back of the central line of the body, the head is rolled upward, and long before the humerus is brought up perpendicularly, the capsule at the lower border of the head has become tense, thus holding it firm; while the humerus, being thrown up and restrained by its muscles, slides the diaphysis backward, producing a coaptation of the corresponding facets. In other words, the reduction is effected by carrying the arm forward and upward, using moderate extension to the perpendicular line with the body.

The retention is effected by moderate extension while bringing the arm down to the side, and maintaining this slight extension until dressings for the purpose of continuing it are applied. Moore's method, which consists of a wooden splint fastened to the outer side of the arm, resting its lower end in a strip of adhesive plaster, while the upper end projects two inches above the shoulder, with a notch through which a bandage is passed under the axilla for extension, fulfills easily and promptly the indications.

With reference to the diagnosis of separation of the epiphysis at the lower end of the humerus, it is easy—on paper. But when the surgeon is called, enough time has usually elapsed to permit of swelling, and with an elbow joint often as big as the calf of the leg, or bigger, and the bony landmarks covered deeply by congested and œdematous flesh, I know of nothing more difficult, in reality, than to determine just the nature of the injury.

There may be fracture alone of the humerus, ulna, radius, or any two of these bones, or each may have therewith associated a dislocation, or a dislocation alone may be present. The dislocation is easiest of diagnosis because of abnormal rigidity, but fractures, either singly or with a dislocation, are less easily determined with exactitude. If the beginner in surgery will wrap the elbow of a skeleton in a pillow and try to examine the joint through its depths, he will approximate the difficulty of the case. Could we be sure of dislocation only, our duty is plain: simply to reduce it at once, for any delay increases the difficulty and also invites a stiff joint. Again, if we felt certain of fracture alone, we should feel mentally at ease, for there need be no haste in setting a fracture if the fragments are not badly displaced, because no callus is formed for nearly a week, which time would be sufficient to allow swelling to subside, and reduction could then be exactly performed. But, unfortunately, the surgeon must often be in doubt, because of great swelling, as to the exact diagnosis, and a positive diagnosis obtained at the earliest possible moment has everything to do with good surgery. In this condition also the X rays afford valuable and most reliable aid in early diagnosis. Under such circumstances, the practical point I am about to mention becomes of the utmost value. Put your patient under anæsthesia (as is the proper manœuvre in all cases of fracture, unless there is some organic lesion). Now apply an Esmarch elastic bandage, starting at the band and going very slowly but firmly up the forearm, over the swollen elbow joint, and continue until the armpit is reached. Leave the bandage on say for ten or twelve minutes. At the end of that time remove it, beginning at the band, but leaving the final few turns upon the upper end still tightly *in situ*. The elbow thus exposed will be pale, bloodless, and no longer swollen. All the congestion and œdema are, for the time being, caused to vanish.

The diagnosis can now be made with positive ease. The lower end of the upper fragment will be tilted forward, will be prominent, and the elbow joint pushed seemingly backward with limited flexion and extension of the forearm. The lower end of the upper fragment has greater width than any fracture at the base of the condyle and the line of separation is nearer the end of the bone.

Reduction.—An easy mode of reduction is to grasp the forearm and make extension with the knee in the bend of the elbow, adjusting the fragments with the free hand. Now the remaining turns of the Esmarch bandage are removed, and, of course, the swelling promptly returns; but the surgeon has accomplished his purpose. He knows the real diagnosis, applies both an anterior and posterior angular splint, with pressure anteriorly over the seat of separation, is ready to protect his own reputation, and can forecast the outcome with some degree of accuracy.

We all know that it is early errors in exact diagnosis, with resulting unfortunate lines of treatment, which most often subject the practitioner to malpractice suits. The question of passive motion in this separation is absolutely essential to get perfect extension and flexion. This should be resorted to by the surgeon—no one else—about the seventh or eighth day; then about the twelfth day, and after that every other day until the twentieth day. The fragments should be held in apposition and motion given very cautiously. If after the twenty-second day complete flexion and extension can not be produced, an anæsthetic should be given and the adhesions broken up so as to allow both flexion and extension. Many times it is advisable, after provisional callus formation when the fragments are in apposition, to bandage the arm one day extended and the next day flexed. In this manner brilliant and satisfactory results may be obtained.

In the report of the cases which have come under my observation, I desire simply to make reference to three as follows:

Case I.—Boy, aged thirteen, fell from an elevation of sixteen feet, striking on the left shoulder. He was seen soon after by an experienced physician who committed the common error of diagnosticating the condition as a dislocation which, he told the patient, he had reduced. Ten days later, the shoulder was still swollen and painful, and the patient saw a second physician who diagnosticated fracture of the greater tuberosity, and referred him to me, without attempting reduction.

The following conditions presented when I saw the boy, twelve days after the accident: The shoulder was flattened from above downward, and appeared broader on profile; three fourths of an inch below the acromion there was a marked prominence having a regular, smooth edge and passing inward to a surface slightly wedge-shaped. The shaft of the humerus was so inclined as to carry the elbow backward and outward. The head of the humerus was in the glenoid cavity, and, when firmly held by rotating the arm, a muffled crepitus was felt.

The patient was placed under ether, and reduction was performed by carrying the arm forward and upward to the perpendicular line of the body, and retention effected by moderate extension while bringing the arm down to the side. The dressing used was the apparatus described above, and was removed in four weeks with perfect motion of the shoulder joint and disappearance of all deformity.

Case II.—Boy of six years stumbled and fell, the entire weight of the body resting on the left elbow, which struck a large stone. I saw the case twelve hours after the accident. The arm was swollen from the wrist to the axilla. At the elbow joint, in front, a marked bulging of the muscular structures was held out by the projecting end of the shaft, which was tilted forward and had a margin that extended the whole width of the humerus, while the joint proper was pushed backward with limited flexion and extension. The diagnosis of epiphyseal separation of the lower end of the humerus was entertained, but, to verify the diagnosis, Esmarch's elastic bandage was applied in the manner described in the foregoing.

Reduction was easily made and the fragments retained by an anterior and posterior right-angular splint, the former having a pad over the seat of separation.

This dressing was left on for seven days. Passive motion was given (not by any member of the family, but by the attending surgeon) by firmly holding the fragments in apposition, which motion was repeated seven days later. Then passive motion was resorted to every other day for twenty days, after which time the little patient had absolutely perfect flexion and extension, as the accompanying photograph will verify.

Case III.—G. R., aged ten years, had suffered a fracture of the right arm two years previous, and a fractured clavicle on the same side eight months before. While skating, he caught his toe and pitched headlong, striking on the left elbow. The arm immediately began to swell, and when I saw the member the swelling extended from the wrist to the axilla. Under an anæsthetic, the elastic bandage was applied, and the diagnosis of epiphyseal separation of the lower end of the humerus was made.

Assisted by Dr. Lucian H. Shepherd, the reduction was made by extension of the forearm with the knee in the bend of the elbow. After reduction the elastic bandage was removed and an anterior and posterior right-angular splint was applied. The dressing was left on for seven days, when passive motion was given. On the fourteenth day passive motion was given, and after that every other day for twenty-two days, when, not being satisfied that marked progress was being made, the patient was given an anæsthetic. The adhesions were broken up and the arm bandaged in an extended position.

In three days the arm was dressed and bandaged in a flexed position for three days, after which time passive motion and massage were resorted to with perfect extension and flexion.

Permit me to add that two other cases of epiphyseal separation—one of the upper and one of the lower end of the humerus—have occurred in my practice, both showing the characteristic separation above referred to, in which reduction was practised by Professor David M. Totman, of Syracuse, New York. In both cases the recoveries were perfect.

401 Montgomery Street.

CLINICAL REPORT OF
AN EPIDEMIC OF INFANTILE DIARRHŒA.

By ISAAC J. JONES, M. D.,
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The present season, beginning as early as the first of April, has been marked in our city by the prevalence of an epidemic of diarrhœa, and not only infants but adults as well have been extensively affected. The disease has also been of a severe and fatal type, as the many little graves in our various cemeteries eloquently testify. These graves also bear witness to the inefficiency of the present treatment of the disease, a question that I will venture to assert is in as unsatisfactory a state to the conscientious physician as any in the whole field of therapeutics. The local cause for this sad history is not far to seek, and is embraced in one word—filth. Our city, being situated on a series of rocky and gravelly hills sloping toward the Colorado River, and to the small streams that enter it, is naturally clean, and usually requires but little attention from the sanitary department, and, as might be expected, we have no sanitary department worthy of the name. Therefore, Nature has to do whatever sanitation is done. This is usually very satisfactorily accomplished by the heavy rains which recur with regularity during the winter and spring months, and which wash all filth into the river. By this process the city is usually fairly clean by the beginning of the heated term, and if we are so fortunate as to have a few heavy rains at proper intervals during the summer, we do not suffer to any marked extent from diseases due to filth. This year, however, we had no rain of consequence from the 1st of December until the last of May, thus exactly reversing our usual condition of rainfall. The surface of the ground has been reduced to dust which has penetrated everywhere—as our housekeepers and merchants will testify. This dust has been present in perfect clouds; no substance could be exposed to the air in the slightest manner without receiving a coat of it. A cistern left open but a few minutes, the sideboard, the kitchen safe even, if not air-tight, would be permeated. Of course, many articles of daily consumption were thoroughly infected by this agent, many of which reached the stomachs of our population, carrying many infectious germs from the filthy streets and alleys, without the least sterilization. Added to this active source of infection we had during the early spring an unusually high temperature for the season. These factors to my mind satisfactorily account for the epidemic that we have had.

The therapeusis of these intestinal troubles, as might be supposed from the reference to new-made graves above, has not been successful here. We have a capable local profession and they have exhausted the resources of the text-books, but with disappointing results in many cases.

The authors of our text-books are responsible for introducing much confusion into this subject by attempting to make arbitrary anatomical divisions of the disease, which, as has been clearly proved, is impracticable, and which is not at all necessary to a correct knowledge of the pathology and clinical history. For clinical purposes it is only necessary to distinguish between two forms, the dyspeptic and the bacterial, and the latter is frequently the result of bacterial infection in a case of simple dyspeptic diarrhœa. If indigestible food is introduced into a healthy alimentary canal, or if the food is proper and digestible and the canal is not healthy, indigestion occurs and the passage of the food through the intestines is delayed. Though the food may have been absolutely sterile when introduced, fermentation will occur from the presence of that bacterium which is found in all stomachs. This will be followed by a condition of alternate constipation and diarrhœa, which is the dyspeptic diarrhœa referred to above. This condition, if no accident occurs, is simple and easily relieved, as a rule. If the diet is corrected the patient usually gets well at once. If, however, by careless feeding the intestinal tract is infected by any of the many forms of bacteria capable of producing infantile diarrhœa (see Booker, *Johns Hopkins Hospital Reports*, vol. vii), serious consequences immediately ensue. By reason of the accumulations of fermenting food in the canal, a favorable site for the growth and development of the germs is provided, while at the same time the vital powers are below par. Hence, in treating the simplest form of infantile diarrhœa the greatest care should be observed in the feeding to see that all possible sources of bacterial infection are excluded. I am satisfied that the greater part of our trouble during this epidemic has arisen from a failure to observe and properly carry out this condition. To do so, especially when confronted with an omnipresent and aggressive infection, like the dust described above, and when for the carrying out of your orders you must depend upon unskilled hands whom no amount of instruction will cause to appreciate their prime importance, is a problem of great difficulty. We should therefore not be surprised to find that a large percentage of our simple dyspeptic diarrhœas result in grave forms of bacterial infection. An illustration of this danger is found in Case I as described below. I had ordered the child to have a meat broth with barley, to be freshly prepared every six hours, and to be kept in the mean time in a sealed container. Observing on my third visit that the patient had grown suddenly worse, and suspecting that my directions were not being properly carried out, I ordered the child to be fed in my presence. I was not surprised to see the mother take from a table, which stood by an open window but a few feet from a very dusty street, an uncovered glass, and proceed to pour from the vessel containing the prepared food. On examining the glass I found it to contain a tablespoonful of the broth left over from the last feeding, which was coated with the dust from the street. This was a woman of at least average intelligence and devoted to her sick baby, and had been carefully instructed. I resolved that in the further treatment of this and other cases of infantile disease it was necessary to select a food that in its nature and method of preparation was as nearly incapable of infection as possible, thinking that this quality was perhaps of more importance in treating this disease than its nutrient qualities.

To obtain the greatest certainty that the food is sterile until it reaches the stomach of the patient, even when administered by the incompetent, the nourishment should always be prepared from *hot water*, as this is almost universally first boiled and then allowed to cool down to the required temperature. It should also be easily prepared as wanted, and never prepared in quantities. The objection to most artificial foods that meet these two conditions is that, as a rule, they contain no nitrogenous elements, and hence are incapable of sustaining life for any length of time. Those foods that require milk in their preparation are not to be thought of under such conditions as we have had, as the milk was certain to be infected, and is difficult to sterilize, besides the general objection to milk in infantile diarrhœas that it furnishes a nidus for the bacteria to develop in. Aside from these qualities, the food selected must be in a form to insure its rapid absorption and assimilation, must not tax the digestive organs, and must be entirely devoid of any irritating effects upon the gastro-intestinal tract. More recent investigations, both in physiological laboratories and in clinical practice, would seem to show that proteids administered in the form of albumoses require practically no digestion, are promptly absorbed and assimilated, and entirely free from irritating effects. They therefore represent the most available means of administering in small bulk the greatest amount of albuminous nourishment in the class of cases referred to. While albuminous foods and peptones frequently give rise to digestive disturbances and are apt to excite repugnance, the albumoses are not only devoid of these disadvantages, but have a stimulating effect upon the appetite and digestion.

Bearing these observations in mind, I call your attention to the following cases, each one selected to illustrate some particular point in the treatment of these conditions:

Case I.—C. H., a girl, aged eighteen months, located in a very dirty section of the city, though its immediate surroundings were cleanly and fairly good. Child had been robust and well nourished and had no previous illness. First visit, April 11th. Was attacked on the previous day with severe and frequent diarrhœa with lumpy, acid stools and accompanied by some nausea and a temperature of 100.5° F. I prescribed four powders, each containing English calomel, a quarter of a grain, Dover's powder, half a grain, and ipecac, a tenth of a grain, to be given every hour until the bowels acted freely. I also ascertained that the child had been fed on a miscellaneous diet and milk obtained from the milkman. I ordered this to be discontinued, and the child to be given nothing for the first twenty-four hours but sterile water in liberal quantities, and then to have freshly prepared beef broth sparingly. On the evening of the following day I found the child much better; no fever; discharges from bowels only two, and of healthy appearance and consistence. I ordered diet of beef broth with a little barley, to be prepared fresh every six hours, and kept in the interval in a self-sealing fruit jar sterilized each time used. On the second day thereafter I was recalled and found the patient much worse every way, thin watery discharges from bowels every few minutes, and a temperature of 103.5° F. I was positive that a fresh infection had occurred, and equally so that my instructions had not been properly carried out. The calomel powders as above were ordered repeated, bowels irrigated through a soft-rubber catheter, and the child placed in a tepid bath for ten minutes, which was to be repeated every four hours as long as temperature remained high, and all food except sterile water was discontinued. Next day the child was much better, and diet was ordered with very rigid instructions as to its preparation. Patient improved for two days longer, when I was recalled to find that another relapse had occurred, with the same symptoms as formerly, except that the stools were now of a thicker consistence, loaded with mucus, and streaked with blood. The child by now was much emaciated. I requested the mother to feed the child in my presence, and observed the most criminal carelessness noted above. The same treatment was ordered as on my first visit except the diet. This was to consist of half a teaspoonful of lacto-somatose dissolved in a half glass of hot water every four hours, and nothing else. The child steadily improved from this time on and made an uneventful recovery. I permitted the addition of freshly prepared beef broth to the lacto-somatose after one week.

Case II.—J. W., a girl, aged one year. First visit, May 3d. Surroundings and condition of life bad. Patient had been suffering with bacterial diarrhœa for two weeks without medical attention; she was much emaciated and was having ten to fifteen evacuations daily. Stigmata of congenital syphilis. Temperature, 104° F., and did not fall below 102° F. in the evening for several days. Ordered calomel powders, as in Case I, and tepid baths at two, six, and eleven o'clock, and three minims of syrup. ferri iodidi every six hours. No food except sterilized water to be given for the first twenty-four hours, and then half a teaspoonful of lacto-somatose in half a glass of boiled water, still hot. This was to be given every three hours and freshly prepared. At the end of one week the condition of the patient was vastly improved; no fever; bowels almost normal. She was taking lacto-somatose, to which beef broth had been added, with increasing relish, and was also gaining flesh rapidly. The parents took offense because I censured them for administering paregoric to the child to secure quiet for themselves at night, and discharged me. A neighbor has since told me that they began at once to feed the child on milk from the milkman, that it had a relapse almost immediately, and died in a few days.

Case III.—My own child, a boy, aged two years, was attacked on May 27th with symptoms almost choleraic in their intensity. Temperature 104° F. and severe nausea. Gave calomel, about half a grain to a grain, placed on the base of the tongue, as I could get it retained no other way. Administered a tepid bath at intervals of four hours until temperature was reduced to almost normal, which was in about twelve hours. Irrigated bowels with saline solution through soft-rubber catheter every four or five hours until lower bowels were thoroughly cleansed. No food except sterilized water for the first twenty-four hours, and then began the lacto-somatose, as in the former case. Improvement was immediate and marked until the fourth day, when by accident the patient obtained access to some candy, which I have no doubt was dust-covered, and ate heartily of it. The result was a severe relapse, accompanied by a temperature that at one time reached 105° F., a bloody mucous diarrhœa, and again intense nausea. Owing to the impossibility of his retaining anything, the severe prostration, and excessive temperature, I almost despaired of his life. The calomel was given as before, and mustard applied to the entire abdominal surface. The calomel acted very promptly and the nausea ceased at the same time. Intestinal irrigation, tepid baths, etc., were administered as indicated, and lacto-somatose was used as before, and the further convalescence was uneventful, though, owing to the child's feeble condition, somewhat protracted. In this case the lacto-somatose constituted the sole diet for one week, and was taken with increasing relish all the time.

Case IV.—A boy, aged ten months. Called May 31st. Had been suffering with loose bowels for some time (dyspeptic), and had been taken the day before with a very severe diarrhœa with all the symptoms of acute infection. Was not weaned, and the mother declared that it had no food except some water, which must have been the source of infection. The child being well advanced in dentition, and the mother's milk being objectionable both on the general ground that milk is favorable to the growth and development of bacteria, and the further reason that this mother was in very poor health, having occasional diarrhœa with fever, I ordered the child to be weaned, and gave it as a diet lacto-somatose, to which was added after a few days thin gruel and milk sugar. This, with the calomel powders, as in Case I, was the entire treatment, on which the little fellow rapidly improved, and is now the picture of health. The lacto-somatose was given for three weeks.

During the last three months I have treated about twenty-five cases of infantile diarrhœa, many of them of the gravest form, and am well pleased with the results, which are, one death, and complete recovery in all the remainder except two. I have treated them all by substantially the same plan that is described in the four cases. I am especially well pleased with lacto-somatose as a food in these conditions, and am now using it in the first case of typhoid I have met with this season, a condition in which the preparation should be very useful. This food is a preparation of the albumoses of milk with five per cent. of tannic acid in chemical combination.

The following is a summary of my observations on the use of this preparation:

It is readily prepared with hot water.

It forms an agreeable addition to other liquid foods.

It is palatable and is taken with increasing relish.

It is not an irritant to the intestines, but, on account of the combination with tannic acid, assists materially in the treatment of diarrhœa.

It is aseptic, and on account of the method of preparation not liable to be infected.

It contains all the albuminous principles necessary to nutrition, and with slight and judicious additions will support life in all its functions for an indefinite length of time.

1401 East Twelfth Street.

EPILEPTIC EYE STRAIN.

By C. M. CAPPS, M. D.,

KNOXVILLE, TENN.

The only apology I can offer for this paper is the importance of a proper consideration of eye strains and the relations they bear to functional disorders of the nervous system. That errors of refraction do produce a long list of sympathetic neurotic conditions is no longer questioned, and one of the most formidable of these conditions is the one under consideration. The term I use to express this condition, so far as I know, is foreign to medical literature, but it seems to convey the idea admirably. It seems a very logical conclusion that eye strain might produce an epileptic convulsion. When we consider the complicated arrangement of the nerves of the iris and ciliary processes, I do not believe that the direct effort that is made by the eye to produce normal refraction causes an epileptic attack; but the continued effort that is put on the filaments of the nerves of accommodation in course of time sets up a reflex condition of the sympathetic system that produces the paroxysm, just as it does in other organs of the body. Indeed, it seems that the impression on the eye would be the most apt to cause reflex action, as the nervous arrangement of the organ of sight is so complex in its structure that it can distinguish the rays of light even in their length and color. I have reports of but two cases of epileptic eye strain that have come under my observation in the last two years.

Case I.—Miss Z., aged nine years, came under my observation one year ago with this history: Has had epileptic convulsions since four years of age; would have from three to six convulsions every month; was put at school at eight years of age; convulsions became rapidly worse. I dilated the pupil with atropine; the convulsions stopped. The patient had compound myopic astigmatism.

R. − 2.00 ○ − 50, cyl. ax. 90°.
L. − 1.50 ○ − 75, cyl. ax. 90°.

There has been no return of the epilepsy at the time of the present writing.

Case II.—Miss Q., aged eight years, epileptic since she was three years of age. This was a case of compound hypermetropic astigmatism.

R. + 1.50 ○ + 75, cyl. ax. 180°.
L. + 2.00 ○ + 50, cyl. ax. 180°.

These glasses were prescribed five months ago. No return of epilepsy at the present writing. The first that led me to suspect that epilepsy was sometimes caused by errors of refraction was reading reports of cases of epilepsy that were benefited by the administration of belladonna. The good results were only obtained when the systemic effects were produced, and passed off soon after the remedy was discontinued.

It is fair to say that the good results of belladonna in these cases was due only to the power it had to dilate the pupil, and it was lost as soon as the effect passed off. I wish to say that in all cases of epilepsy occurring in children it should be the duty of the family physician to have them see an eye specialist, at least after other remedies have failed.

Ergot in the Sore Throat of Phthisis.—Dr. J. Howe Adams (*Medical Times*, September) records six cases of phthisis in which the congested pharyngeal "sore throat" was treated by the administration of the fluid extract of ergot in twenty-minim doses three times a day with excellent results, the sore throat subsiding in from three to five days. Ulceration was present in two cases. All the cases but one were those of patients in an advanced stage of phthisis.

GLAUCOMA FOLLOWING SUPRAORBITAL NEURALGIA OF MALARIAL ORIGIN.

By LOUIS A. BIZE, A. B., M. D.,
TAMPA, FLA.

Mr. J. J. D. came to me June 10th suffering intensely with his right eye. He gave a history of having had a similar attack five years since that lasted some time. Upon examination I found the ball congested and tender on pressure, the cornea steamy and excoriated in two or three spots, the pupil dilated and tension increased. The anterior chamber was somewhat shallower than in the other eye. There was intense pain radiating back over entire right side of the head. I was unable to see the fundus on account of the hazy condition of the cornea and the cloudy condition of the lens. No increased temperature. I diagnosticated a glaucomatous condition, although the intense pain was entirely out of proportion to the increased tension and other symptoms. Eserine was instilled and hot applications advised. I saw him next morning and he was somewhat improved, the pupil had contracted and tension was reduced to about normal; a weak solution of eserine was again instilled and hot applications continued. I was sent for again about three o'clock that afternoon, and found the patient suffering intense pain. Upon examining the eye the pupil was again found dilated and tension increased. A hypodermic of morphine was given, eserine instilled, leeches applied, and heat continued. He rested badly that night, and when seen again next morning was suffering from another attack; upon examination the same condition of affairs was found to exist as before; the same plan of treatment was gone through, with only partial relief; he suffered a great deal all day; the morphine only modified pain. These attacks continued at irregular intervals for several days, and at no time was the tension greater than + 1. About the seventh day the attacks began to appear at about the same hour every night. I had used the eserine regularly and was able to reduce the tension; hot applications were continued and bowels kept open. At no time did I think the increased tension sufficient to justify an iridectomy. Notwithstanding the treatment, the attacks returned, and he suffered the most excruciating pain.

The attacks finally occurring periodically caused me to suspect a malarial origin, and I at once commenced the use of quinine in large doses—five grains, combined with one two-hundred-and-fortieth of a grain of strychnine and one grain of capsicum were given every two hours during the day and night, and an hour previous to expected attack ten grains were given. The first night following this treatment the attack was delayed two hours. The next day the same course was pursued, and I was gratified to see him pass through the night without an attack. This treatment was continued, slowly lessening the amount of quinine given; the patient improved daily, and at the end of ten days after the first dose of quinine was discharged, practically cured. I advised daily doses of quinine for a month after discharge.

The Buffalo Academy of Medicine.—At the quarterly meeting, on Tuesday evening, the 12th inst., Dr. Daniel R. Brower, of Chicago, read a paper on The Medical Aspects of Crime.

Therapeutical Notes.

Arsenic and Cinnamic Acid in Tuberculous Disease.—Hoff, of Vienna, an assistant in von Stoffella's clinic (*Wiener klinische Rundschau*, 1899, Nos. 23 and 24; *Medicinisch-chirurgisches Central-Blatt*, July 21st), has used a preparation made according to this formula:

℞	Arsenious acid	1½ grain;
	Purified potassium carbonate	3 grains;
	Cinnamic acid	4½ “
	Distilled water	75 “

Boil until perfect solution is effected (for three quarters of an hour) and add:

Brandy	38 grains;
Aqueous extract of opium (dissolved in thirty-seven grains of distilled water and filtered)	4½ “

S.: Six drops, gradually increased to twenty-two, to be taken after the midday and evening meals.

This is used in cases in which there is no hectic.

Ointments for Zoster.—The *Gazzetta degli ospedali e delle cliniche* for July 20th gives the following formulæ:

1. ℞	Cocaine hydrochloride	3 grains;
	Zinc oxide	15 “
	Starch	150 “

M.

2. ℞	Boric acid	2 parts;
	Zinc oxide	4 “
	Glycerite of starch	30 “

M.

To Abort a Cold.—Max Nassauer asserts that an incipient cold in the head can be checked if the nose is thoroughly rinsed out with a weak (pale pink) solution of potassium permanganate, which seems to have a specific action upon the germs of coryza. It checks colds in the first hour or so. After blowing the nose vigorously, both nostrils are well rinsed out with the solution, the fluid being allowed to run out through the other nostril and through the mouth. Each nostril is wiped out with cotton on the finger. A small dry plug of cotton is then pushed well up into each nostril, and the nostrils are filled with the weak solution, with the head held back, the cotton being allowed to soak it up. The plug is left undisturbed for about an hour, when it can be expelled by blowing the nose. Even an established cold is favorably influenced by this treatment, but it is most effective when the sneezing, tickling, and increased secretion announce the onset of the attack.—*Practitioner; Cincinnati Lancet-Clinic*, August 19th.

An Ointment for Loss of the Eyebrows.—The *Riforma medica* for July 21st attributes the following formula to Trousseau, but it can hardly mean the famous French professor:

℞	Vaseline	150 grains;
	Castor oil	60 “
	Gallic acid	15 “
	Oil of lavender	8 drops.

M.

The Copaiba Treatment of Sciatica.—M. Maréchal and M. Glorieux (*Presse médicale Belge*, July 30th) have reported to the Society of Neurology excellent results from the systemic treatment of sciatica by balsam of copaiba administered in capsules from eight to ten daily.

THE
NEW YORK MEDICAL JOURNAL.
A Weekly Review of Medicine.
Published by D. APPLETON AND COMPANY
Edited by FRANK P. FOSTER, M. D.

NEW YORK, SATURDAY, SEPTEMBER 16, 1899.

THE GREAT ERROR OF OUR EDUCATIONAL SYSTEM.

THE medical men of the world certainly recognize the damage that is being done to youth by the forcing system on which their education is conducted, and we believe that the school teachers realize it, but the powers that be keep on making the curriculum harder and harder year by year. We say the medical men are alive to it. So they are, and that fact makes it all the more disgraceful that our medical schools are among the most flagrant scenes of its execution. The foolishness of the thing needs to be harped upon, and we are glad to observe that Dr. John McMillan, of Pictou, made it the subject of an address delivered before a meeting of the Medical Society of Nova Scotia held in Truro on the 5th of July (*Maritime Medical News*, July). Although in his opening sentence he betrays his participation in the common error that we are "living in the last year of the nineteenth century," the substance of what he has to say is most wholesome. It was meant to apply more particularly to Canada, we presume, but it is applicable almost anywhere.

The teacher, as Dr. McMillan points out, has no part in laying down the curriculum; he has no discretionary power in following it out and can make no allowance for the dull pupil or the nervous pupil, but must resort to the cramming process when examination time approaches. No matter what a pupil's particular bent may be, no matter what his insurmountable aversion, all the children must be put through the same course, and it bears on all of them most heavily at a period in their lives when the changes incident to puberty are a tax upon their reserve power. The result in too many instances is to engender neurasthenia; the child is positively handicapped instead of being strengthened for his coming fight for a livelihood. "The curriculum," says Dr. McMillan, "should be prepared for pupils of average mental ability and average bodily vigor, or rather for those below the average." Rudimentary education is all that the community should set peremptorily before the mass of children; those who have the capacity for more advanced instruction are few in number, and their aspirations may well be met by a few high schools. The born geniuses will find a way to attain suitable acquirements in learning, if only the rudiments are taught them; they can not be held down. Their advance, however, will be in a line of their own choosing, and not in the grooves laid down by boards of education. Under the present system too much work and, we may add, a great deal of it distasteful, is imposed upon the immature brain of the child. This is all wrong; our educational methods should be reformed.

HERNIA FROM THE LIFE INSURANCE POINT OF VIEW.

To say simply that a man has a hernia is to say very little about what it indicates as to the original tonicity of his abdominal wall or about the likelihood of his having serious trouble from it in the future. But particulars of the case are important, not only to the man himself, but to the life insurance company that is asked to accept him as a "risk." The company's point of view is considered by F. Bayer (*Correspondenzblatt des Vereins deutscher Aerzte in Reichenberg*, March 15th; *Medicinisch-chirurgisches Central-Blatt*, July 21st), who takes the stand that hernia is rarely traumatic, that is, occasioned purely by an injury, although a person affected with rupture almost invariably avers that it was brought on by a strain. In the cases in which traumatism really is the cause of a hernia, he says, the individual feels a sudden onset of pain, and it may become so severe as to lead him to seek medical aid. It may be accompanied by vomiting. When, however, the applicant goes on to speak of his having gone at once about work incompatible with the existence of such pain, it may be assumed that the hernia was not recent and traumatic. Occasionally, the author adds, a traumatic hernia is accompanied by such external signs as effusion of blood and redness of the skin. Furthermore, the size of the hernial tumor is of importance in settling the question of its traumatic or non-traumatic origin; if an inguinal hernia occasions a swelling larger than a hen's egg or if it has already reached the scrotum, it can not be regarded as of recent formation. Also, all herniæ that are readily reducible with the person in the upright posture, or are reduced spontaneously on his lying down, are not of traumatic origin and must be regarded as of some standing. Furthermore, it is improbable that bilateral hernia should be produced by a contusion of the abdomen.

In opposition to Hoffmann, for example, the author holds that a hernia should not be looked upon as incurable or as necessarily a bar to active work. The more cases one sees, he remarks, the more one realizes that a hernia does not preclude the severest work year in and year out, and that without the safeguard of a truss. The danger of strangulation is undeniable, but the occurrence of that accident is rare in comparison with the frequency of hernia. On account of these considerations, he says, the life insurance companies have of late years refrained from insisting on an increased rate for the subjects of hernia. With all our recent advances in surgery, he adds, hernia must no longer be regarded as irremediable, and it should not be so set down save in exceptional instances.

THE FUTURE OF MEDICAL CONGRESSES.

We have never been among those who looked upon huge medical meetings, practically open to all comers, as in the highest degree conducive to the advance of medicine, although we recognize that the volumes in which the proceedings of the great congresses are published are commonly of great value. That spicy commentator on current events the editor of the *Gazette médicale de Paris*, M. Marcel Baudouin, recently made the Amsterdam International Congress of Gynæcology the text of some radical remarks concerning medical congresses in general. They seem to have made something of a sensation and to have started a discussion on some of the fundamental features of congresses of medical men. The *Semaine médicale* declares its conviction that these reunions can not survive if they are to be kept open to everybody who chooses to attend, and it would have nobody entitled to take part in the discussions but those who are invited to do so by the managers.

This provision would be an extension to quasi-extemporized and loosely organized bodies of an idea that we have ourselves advocated in the case of societies of permanent organization, but only with regard to non-members. Nothing, in our opinion, is more detrimental to the efficiency and dignity of a medical society than the indiscriminate acceptance of papers volunteered by outsiders. We would even advise the barring of such papers altogether. At the same time we think it in the highest degree desirable that a few non-members who are known to be above axe-grinding should be asked to make addresses, read papers, and take part in the discussions. But can this arrangement be extended to international congresses as those bodies are at present constituted? M. Baudouin (*Gazette médicale de Paris*, August 26th) is convinced that it can not. His argument is a very practical one, and we can see no escape from it. He submits that those who were shut off from participation in the proceedings, merely allowed to be present as auditors, would not accept that meagre privilege; consequently the treasury would suffer and the expenses could not be met. Hence, it seems to M. Baudouin, international medical congresses must in the future, as they have done in the past, keep their doors open to all legally qualified practitioners and allow all such practitioners in attendance to take an active part in the proceedings.

VENEREAL DISEASE AND MARRIAGE.

In its issue for August 31st the *Boston Medical and Surgical Journal* says: "A law recently passed by the Michigan legislature, according to the *Medical Record*, forbids the marriage of any person suffering from gonorrhœa or syphilis, and provides that any one so diseased who may marry shall be guilty of a felony punishable by a fine of not less than $500 or more than $1,000, or imprisonment in the penitentiary for a term not exceeding five years, or by both fine and imprisonment. A wife or husband may testify against her or his guilty spouse, and the privilege of medical secrecy is also abrogated in such cases." It seems to us that one result of such a senseless law will be to deter the subjects of venereal disease from seeking medical advice, provided they have the remotest idea of marrying.

THE AGNEWS, CALIFORNIA, LUNATIC ASYLUM.

In our issue for August 5th we spoke of grave charges against the officers of the asylum that were then under investigation, and expressed our conviction that they were not wholly unfounded. We learn by the *Journal of the American Medical Association* for September 2d that the investigation has led the governor of the State to conclude that the medical officer in charge and his assistants should be dismissed at once. It is added that the superintendent not only will not retire, but intends to sue the governor for libel.

THYREOID MEDICATION IN CONGENITAL MYXŒDEMA.

An interesting and encouraging case is that of an idiotic dwarf reported by Sklarek (*Berliner klinische Wochenschrift*, 1899, No. 16; *Centralblatt für Chirurgie*, July 29th). It was that of a girl who, although seventeen years old, was only about twenty-seven inches in stature and had no more intelligence than a child a year old. She had all of Bourneville's characteristics of congenital myxœdema. Sixteen months of thyreoid medication resulted in a growth of eight inches in stature, with a corresponding gain in weight, and the intelligence of a child three or four years old, besides the subsidence of the physical signs of myxœdema.

THE FEVER OF CANCER.

The occurrence of febrile phenomena in cases of carcinoma, quite apart from complications, has often been recognized, but probably its frequency has not been thought to be so great as is shown by Freudweiler (*Deutsches Archiv für klinische Medicin*, lxiv; *Centralblatt für innere Medicin*, August 12th), who has observed it in 117 out of 475 cases. It is seldom continuous, but for the most part remittent or intermittent, although rarely showing the type of malarial fever. In a considerable proportion, nearly twenty-five per cent., of the post-mortem examinations no ulceration was found, and so the author infers that, like tubercle and lymphosarcoma, carcinoma may have a direct pyretogenous effect.

THE SERUM OF THE VACCINATED CALF IN THE TREATMENT OF WHOOPING-COUGH.

FOR a long time the belief has been entertained that to vaccinate a child was to protect it to some extent against whooping-cough, although only for the time being. Perhaps it was this belief that led a Constantinople physician, Dr. Violi (*Archives orientales de médecine et de chirurgie*, June; *Indépendance médicale*, July 26th), to experiment with the serum of the vaccinated calf, which he appears to have administered subcutaneously in cases of whooping-cough. He finds that it mitigates the paroxysms and sometimes cures the patient. He has made some check experiments with the serum of the non-vaccinated calf, but too few to lead him to any settled conclusions.

THE NEW VOLUME OF THE *INDEX-CATALOGUE*.

THE fourth volume of the second series of the *Index-Catalogue of the Library of the Surgeon-General's Office, United States Army,* carrying the vocabulary from D to Emulsions, has lately been issued. The librarian, Major and Surgeon James C. Merrill, under whose supervision the volume was prepared, is entitled to as much credit as was accorded to the editors of preceding volumes, for in the new one the same carefulness and regard for system are discernible as, fortunately, have prevailed in the entire work.

PRECOCIOUS PUBERTY.

CASES of precocious puberty are not very rare, but they are all worthy of record. Klein, of Bremen-Woltmershausen (*Deutsche medicinische Wochenschrift,* 1899, No. 3; *Centralblatt für Gynäkologie,* August 12th), reports the case of a girl who, when ten months old, was returned to her parents, having until then been cared for by strangers. At that time it was observed that her breasts were well developed, her genitals were large and hairy, and she was menstruating. Menstruation was regular for nine months, each period lasting about eight days; then there were four months in which she did not menstruate. After that a hæmorrhage set in which lasted seven months, in spite of tonics and even styptics, and then ceased after an attack of measles. The child had been puny for the first six months of her life, and subsequently her general condition was not very good. Her mental development was that proper to her age.

ANTANTHRACIC SERUM IN THE TREATMENT OF MALIGNANT PUSTULE.

THE prospect seems good for the triumph of serum treatment over the various forms of anthrax. Abba and Piccardi (*Gazzetta degli ospedali e delle cliniche,* 1899, No. 34; *Centralblatt für innere Medicin,* August 12th) report a case of malignant pustule successfully treated with Sclavo's antanthracic serum, and it is said to be the twenty-seventh case thus far cured by this treatment. They are all stated, moreover, to have been cases in which the disease was progressing. The injunction is added that there should be no delay in resorting to the serum.

UNDERSIZED BABIES.

BABIES born at full term and perfectly developed, although remarkably below the average size and weight, are not very uncommon. Recently the newspapers recorded the birth, in the borough of Queens, of a boy that weighed only a pound and a half. That baby, like others remarkable for diminutiveness at birth, is not unlikely to grow to be a person of ordinary stature.

THE TREATMENT OF TAPEWORM BY INJECTING IT WITH MORPHINE.

DR. J. W. KIME (*Medicine,* September) relates the following ingenious and, we believe, original method of dealing with tapeworm. It is well known that after the administration of tæniacides a large part of the body protrudes, but the head reattaches itself lower down in the intestine. The author, having to deal with such a case, tied a string moderately tightly around the protruding portion of the worm about three inches below the patient, and then injected into the substance of the worm above the ligature half a grain of morphine, which, being taken up by the longitudinal vessels, would circulate throughout the worm. The protruding part was then severed below the ligature, and the remainder returned to the bowel. After about ten minutes a large injection of water was given, when the whole of the upper portion came away, apparently dead. The author has twice used this method successfully, and it seems to deserve a wide trial.

"CHRISTIAN SCIENCE" IN ILLINOIS

IT is announced that the attorney-general of Illinois has given an opinion to the effect that the treatment of the sick by "Christian Science" and other like methods is not illegal, provided no medicine is used. The "Christian Scientists" will doubtless exult at this, but it may prove ultimately a stumbling-block in their way, for it will detract from their attitude as martyrs.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending September 9, 1899:

DISEASES.	Week ending Sept. 2.		Week ending Sept. 9.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	79	12	70	21
Scarlet fever	53	4	57	2
Cerebro-spinal meningitis	0	14	0	0
Measles	83	6	64	9
Diphtheria	104	23	130	26
Croup	9	6	7	2
Tuberculosis	206	151	163	159
Small-pox	0	0	0	0
Chicken-pox	1	0	2	0

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending September 8, 1899:

Small-pox—United States.

San Francisco, Cal.	July 31		5 deaths.
Jacksonville, Fla.	Sept. 2	1 case.	
Louisville, Ky.	Aug. 31	2 cases.	
Boston, Mass.	Aug. 26–Sept. 2	2 "	
Cleveland, Ohio	Aug. 26–Sept. 2	4 "	
Altoona, Pa.	Aug. 26–Sept. 2	7 "	
Texas, sixteen points in State	Aug. 26	71 "	2 "

have, except in two instances, been traced to a hospital at Sedalia, Mo.

Small-pox—Foreign.

Antwerp, Belgium	Aug. 19	1 case,	1 death.
Bahia, Brazil	July 29–Aug. 7	3 cases,	1 "
Rio de Janeiro, Brazil	July 21–Aug. 1	55 "	22 deaths.
Athens, Greece	Aug. 19	7 "	2 "
Bombay, India	Aug. 8		6 "
Chihuahua, Mexico	Aug. 26		3 "
Nuevo Laredo, Mexico	Aug. 26	1 case.	
Moscow, Russia	Aug. 11	2 cases,	2 "
Odessa, Russia	Aug. 12–19	11 "	3 "
St. Petersburg, Russia	Aug 19	3 "	1 death.
Warsaw, Russia	Aug. 12		1 "
Straits Settlements, Singapore	July 15		2 deaths.

Yellow Fever.

Bahia, Brazil	July 29–Aug. 12	3 cases,	2 deaths.
Rio de Janeiro, Brazil	July 21–Aug. 1	3 "	
Panama, Colombia	Aug. 22	20 "	
Port Limon, Costa Rica	Aug. 18	1 case,	1 death.
Christo, Cuba	Aug. 19	1 "	
Sancti Espiritu, Cuba	Aug. 24	2 cases.	
Key West, Fla.	Sept. 8	96 "	7 deaths.
New Orleans, La.	Sept. 2	2 "	1 death.
Tuxpan, Mexico	Aug. 21–28		9 deaths.
Vera Cruz, Mexico	Aug. 25–31	19 "	14 "
San Salvador, San Salvador	Aug. 1	2 "	

Cholera.

Bombay, India	Aug. 1–8		2 deaths.
Calcutta, India	July 22–29		53 "
Osaka and Hiogo, Japan	Aug. 12	4 cases,	1 death.

Plague.

Amoy, China	July 22		250 deaths.
Amoy, China	July 22–29		100 "
Amoy, China	July 29–Aug. 5		75 "
Hongkong, China	July 22–29	37 cases,	39 "
Alexandria, Egypt	Aug. 7–13	46 "	39 "
Bombay, India	Aug. 1–8		75 "
Calcutta, India	July 22–29		16 "
Tamsui, Formosa	July 26–Aug. 10	13 "	20 "
St. Petersburg, Russia	Aug. 12–21	1 case.	
Straits Settlements, Penang	July 14–21	49 cases,	39 "
Straits Settlements, Singapore	July 15–22	3 "	5 "

Changes of Address.—Dr. E. Danziger, to No. 2022 Madison Avenue, New York; Dr. Charles P. Noble, to No. 1509 Locust Street, Philadelphia.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 2 to September 9, 1899:*

BALCH, LEWIS, Major and Surgeon, United States Volunteers, will proceed to San Francisco for duty.

BORDEN, WILLIAM C., Captain and Assistant Surgeon, is detailed as a member of the examining board convened at Washington Barracks, *vice* LIPPITT, WILLIAM F., Jr., Major and Surgeon, relieved.

FOWLER, E. W., Acting Assistant Surgeon, United States Army, will proceed to United States Military Hospital No. 1, Havana, Cuba.

HARVEY, PHILIP F., Major and Surgeon, is detailed as a member of the examining board at San Francisco, *vice* MOSELEY, EDWARD B., Major and Surgeon, relieved.

HIGGINS, AUBRAY F., Acting Assistant Surgeon, will report for duty with Siege Battery K, Fifth Artillery, *en route* from Fort Hamilton to Montauk Point, Long Island.

KEMP, FRANKLIN M., First Lieutenant and Assistant Surgeon, United States Army, is granted leave of absence for seven days.

KIMBALL, JAMES P., Major and Surgeon, is granted leave of absence for one month.

MACLEAN, DONALD, Jr., Acting Assistant Surgeon, will proceed to Honolulu, Hawaiian Islands, for duty with the battalion of the Sixth Artillery.

MATTHEWS, W. S. H., Major and Brigade Surgeon, is assigned to duty on the transport *Warren* during the voyage to the Philippines, and, upon arrival at Manila, will report to the commanding general for instructions.

WATERHOUSE, S. M., First Lieutenant and Assistant Surgeon, will report to the commanding officer, Fort Columbus, New York, for temporary duty.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending September 9, 1899:*

CHAFFEE, J. F., Assistant Surgeon. Detached from the *Boston* and ordered home to await orders.

DECKER, J. C., Surgeon. Detached from the *Monadnock* and ordered to the *Monocacy*.

MARSTELLER, E. H., Surgeon. Ordered to duty in connection with the recruiting rendezvous, Buffalo, New York, and to report at the New York Navy Yard.

STOUGHTON, J., Passed Assistant Surgeon. Detached from the *Monocacy* and ordered to the *Monadnock*.

WARD, B. R., Passed Assistant Surgeon. Detached from the *Boston* and ordered home to await orders.

Society Meetings for the Coming Week:

MONDAY, *September 18th:* New York Academy of Medicine (Section in Ophthalmology and Otology); Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *September 19th:* New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, New York, Medical Association; Syracuse, New York, Academy of Medicine; Medical Societies of the Counties of Kings and Westchester (quarterly), New York; Baltimore Academy of Medicine.

WEDNESDAY, *September 20th:* Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

THURSDAY, *September 21st:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni, of St. Louis; Atlanta Society of Medicine.

FRIDAY, *September 22d:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Births, Marriages, and Deaths.

Married.

Baker—Beyer.—In Stapleton, New York, on Sunday, September 3d, Captain George Livingston Baker, Jr., United States Army, and Miss Magdalene Beyer, daughter of Dr. Herman Beyer.

Fox—Robinson.—In New York, on Tuesday, August 15th, Dr. Charles T. Robinson and Miss Marie Nathalie Fox.

St. Martin—Maurin.—In New Orleans, on Tuesday, September 12th, Dr. J. V. St. Martin and Miss Lyllyan Maurin.

Died.

Ludlow.—In Bridgehampton, New York, on Tuesday, September 5th, Dr. George Floyd Ludlow, in the twenty-ninth year of his age.

Nolen.—In Franklin, Massachusetts, on Monday, September 4th, Dr. William B. Nolen, in the eighty-third year of his age.

Robinson.—In New York, on Monday, September 11th, Dr. Charles T. Robinson, in the twenty-seventh year of his age.

Letters to the Editor.

CONSTRICTION OF THE PENIS.

415 Warren Street, Syracuse, N. Y.,
August 21, 1899.

To the Editor of the New York Medical Journal:

Sir: A dangerous practical joke was exemplified in the case of a man who, about 6.30 a few mornings since, called at my house and stated that his was probably the most peculiar case I had ever seen. I had heard that remark often, so did not give it much attention, but I noticed the man was thoroughly alarmed. I had hardly closed the office door when he had his trousers down and said: "I had that on my ring finger when I went to bed, and you can see where it is now."

I saw on his penis, as close to the body as it could be crowded, a very heavy plain gold ring. The penis was swollen to the fullest size at erection, as black as coal, and as cold as a stone. The ring was so imbedded in the swollen tissues that I did not think it could be cut or filed off, and, as the organ was so discolored and cold, I doubted if it could be revived if the ring was removed. My first impulse was to send him to hospital for amputation, but I decided to try to cut the ring. With a small napkin I held the tissues back and with a knife-file filed quartering across the ring (it was so close to the body I could not file straight across), and when I had nearly filed through with considerable trouble I succeeded in getting a director under the ring, and then, after a full hour's work, I succeeded in cutting it through. I then took two tooth forceps and, grasping each severed end, opened the ring. As soon as I did so the urine started and the fellow was greatly relieved. I immediately placed the organ in hot water to which I added some ammonium chloride and, placing a kettle of boiling water near, told him to keep adding the hot water so as to keep the solution as hot as he could possibly bear it.

In about an hour there was some improvement in the color of the penis, and I dressed it with a liberal amount of cotton saturated with five-per-cent. solution of ammonium chloride and told him to come back at noon. At noon the color was coming back, but there were two blebs near the glans. These I lanced and then was able to draw the foreskin over the glans. Then for the first time I told him he would be all right. I have not seen him since, so I think he must be well.

So far as his story goes, evidently the ring was slipped over the penis simply as a joke, with no intention of injury or harm to him. He had taken a long bicycle ride, drank several glasses of beer, and gone to sleep, dead to the world, till the pain awoke him.

Charles F. Wright, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XXXVI.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(*Continued from page 388.*)

To whom Liable.—To whom the physician becomes liable by reason of negligence or malpractice is often a question that would confuse one not understanding the fiction of the common law upon which these rights are often based.

At common law the family formed a legal unit, which was represented by the husband and father. An injury to his person was one which created a cause of action in his favor alone and upon which he alone must sue; but should the injury be done to the wife, a double cause of action arose—one in favor of the husband for damages for the loss of her services and society during the time she was suffering from the injury, also for the cost of nursing and caring for her while ill. The other cause of action arose in favor of the wife for the injury inflicted upon her, in which the measure of damages was an amount adequate to compensate her for the inconvenience and suffering caused thereby. In this cause suit must be brought by the husband and wife jointly. In case of injury to the child, the rule is nearly the same. A cause of action arises in favor of the father for the loss of the child's services and for the cost of curing and caring for him. A separate cause of action arises in favor of the child for the personal injury which he has sustained and for the suffering to which he has been thereby subjected, and for any permanent injury reaching beyond his minority; upon this cause of action suit is brought for the infant by his guardian, or by a third person, who is styled the next friend or *prochein ami.* The father, if living, usually does, and by natural right may, appear for the infant as next friend.

In cases where the cause of action is made to survive the injured party by statute, the statute usually provides by whom the suit shall be brought and prosecuted, and in all such cases its provisions must be strictly followed.

Liability for Act of Partner.—As a general rule of law, each partner in a copartnership is bound by the acts of his copartners performed in the scope of the partnership business.

This law has been held to apply where a patient employed a firm of physicians to treat a broken leg. Both members of the firm attended him. The treatment of the one was skillful and proper, but the treatment of the other was negligent and unskillful. Suit was commenced against both, and the court held them to be equally amenable.*

Effect of Judgment against Patient for Fee upon Suit by him for Malpractice.—Although the effect of a judgment obtained by a physician against a patient for his fee in a given case upon a cause of action for malpractice in that particular case has already been treated,† it is thought advisable to refer to the subject again at this point.

Should a physician begin a suit, say before a justice of the peace, to recover the value of his services in a given case, and the defendant appears and defends upon the grounds that the services were valueless and that he sustained injury from the physician's negligence, etc., and a judgment is rendered in favor of the physician, this judgment, if unrepealed, stands as a complete adjudication of the patient's cause of action for damages, and will prevent him from subsequently bringing suit against the physician in another or higher court to recover damages. But supposing the patient does not appear, but suffers judgment to be entered against him by default, or supposing he appears and defends upon other grounds than those of the physician's negligence or incompetence; what, then, is the effect of a judgment for the physician? This is a question upon which the courts of different States differ. Those of Indiana, Iowa, Ohio, and Wisconsin ‡ hold that such a judgment will not prevent the patient from afterward suing the physician to recover damages sustained by reason of his negligence or incompetency. Upon the other hand, the courts of New York, New Jersey,# and West Virginia # hold that a judgment in behalf of the physician for his fees in a particular case is a complete bar to an action by the patient for damages sustained by him from improper treatment of the physician in that case, whether in the defense the character of the professional services rendered is subject to adjudication or not. Nor is the judgment in behalf of the physician for his fees the less efficacious because the suit in which it was obtained was begun before a justice of the peace after suit was commenced in a higher court by the patient to recover damages against the physician for negligent treatment in the particular case.||

In those States in which the courts have not passed upon this question it must be considered an open one.

Of Proving Malpractice.—In a former chapter of this work it has been stated that the implied contract of the physician is not that he will cure or even benefit his patients, but simply that he will use ordinary skill and diligence in that behalf; and the preceding pages of this chapter have shown that the physician's liability to a patient can not be predicated upon the mere failure of his skill to benefit the patient, or upon the mere fact that the patient has become worse under his treatment, but that such liability must be founded upon incompetency, unskillfulness, or negligence shown in the treatment of the particular case, from which unprofessional treatment injury has resulted.* It therefore follows that, in an action brought to recover damages resulting from malpractice, proof of the mere fact that a fractured leg is shorter after healing does not amount to *prima facie* evidence of want of skill or care in the surgeon who attended the same.†

Justice Lyon, of the Wisconsin supreme court, in commenting upon the danger of receiving conditions as evidence of improper treatment, said: "The sad thought, 'it might have been,' forces itself upon all in hours of sorrow and gloom; but, unless the thought is verified by substantive and reasonably conclusive proof, it furnishes no safe basis of judicial judgment.

"It is a frequent occurrence that patients change their physicians; also, that the second physician called disapproves the treatment of his predecessor, and changes it, perhaps properly, and the patient dies. In such a case, if it should appear that the practice of the physician first called was incorrect, there is always room to conjecture that had the patient been properly treated in the first instance he would not have died. And yet, if a verdict based upon mere conjecture could be sustained, holding the physician first employed guilty of causing the death of the patient, the practice of medicine and surgery would be most perilous callings. The law does not subject the members of those or any other professions to any such peril." ‡

And so, where an oculist operated upon a girl of seven years, who had been cross-eyed for some years, for the purpose of straightening her eye, and the evidence showed that he performed the operation in the usual and approved manner, and bandaged the child's eyes and gave directions for her future treatment, other evidence will be required upon which to base a verdict against the oculist than that the child lost the sight of the eye after the operation. To justify such a verdict there must be evidence showing a want of the requisite skill, knowledge, or care on the part of the oculist. The court, on review of this case, said: "We feel certain that a verdict in favor of the plaintiff was not authorized by the evidence, and we believe that sympathy for the plaintiff unduly influenced the jury in rendering such a verdict." #

In the case of Sims *vs.* Parker,|| the plaintiff, feeling certain pains, went to the defendant, who examined him and told him that he was ruptured, and thereupon applied a truss. After the truss was put on the plaintiff suffered great pain and went back several times, but was told that the pressure of the truss was necessary. The evidence showed that the plaintiff was a fleshy man, that at the time he first applied to the defendant there was a slight swelling or protuberance at the point where he located the pain, and that the defendant adjusted the bulb of the truss over this. When the truss was taken off at the end of two weeks this swelling had increased and developed into an abscess. The physician who attended the plaintiff for the abscess was unable to say whether there was an incipient abscess at the time the truss was first adjusted or whether the abscess was produced by the truss.

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* Whittaker *vs.* Collins, 34 Minn., 299.

† See chap. vi, Recovery of Compensation, MS.

‡ Globe *vs.* Dillon, 86 Ind., 327; Sypes *vs* Bonner, 1 Cin. Rep., 464; Ressequier *vs.* Byers, 52 Wis., 650; Whitesell *vs.* Hill, 66 N. W. Rep., 894 (Ia.).

# Gates *vs.* Preston, 41 N. Y., 113; Blair *vs.* Bartlett, 75 N. Y., 150; Dunham *vs.* Bower, 77 Id., 76; Ely *vs.* Wilbur, 49 N. J. L., 685.

‖ In West Virginia the court goes only so far as to hold that the judgment obtained by the physician for the amount of his fees is a bar to an action by the patient for malpractice in that case, where the patient appeared generally in the suit instituted by the physician. Had the judgment of the physician been obtained by default, or had the patient appeared specially to plead in abatement to the action, then he would not be precluded thereby from maintaining an action of malpractice against the physician. Lawson *vs.* Conway, 37 W. Va., 159.

△ Bellinger *vs.* Craig, 31 Barb., 534.

* Wurdeman *vs.* Barnes, 92 Wis., 206.

† Piles *vs.* Hughes, 10 Iowa, 579.

‡ Gores *vs.* Graff, 46 N. W. Rep., 48 (Wis.).

# Feeney *vs.* Spaulding, 89 Me., 111, 35 Atl. Rep., 1027.

‖ Sims *vs.* Parker, 41 Ill. App., 284.

The fair conclusion from the evidence given by the experts was that there was no rupture on the plaintiff. It was also shown that it is very difficult in certain cases to tell with certainty whether there is in fact a hernia or not, particularly in the case of fleshy persons.

There was also evidence that tended slightly to show that the abscess was caused by the pressure of the truss, but there was no evidence that the defendant was negligent or unskillful in his diagnosis or in fitting the truss.

This evidence was held to be insufficient to warrant a verdict for the plaintiff. The court said: "Proof that he was mistaken as to the existence of a rupture, or that the abscess was caused by the pressure of the truss, was not enough to entitle plaintiff to a verdict.

"Proof of a bad result or of a mishap is of itself no evidence of negligence or lack of skill. The defendant is qualified to practise medicine and surgery, and the evidence of the experts in his profession show him competent and skillful. Before a recovery could be had against him it must be shown that his treatment was improper or negligent, not merely that he was mistaken or that his treatment resulted injuriously to the plaintiff. A physician or surgeon, or one who holds himself out as such, is only bound to exercise ordinary skill and care in the treatment of a given case, and in order to hold him liable it must be shown that he failed to exercise such skill and care.

"The jury can not draw the conclusion of unskillfulness from proof of what the result of the treatment was, but that the treatment was improper must be shown by evidence."

From this and the preceding cases it may justly be inferred that the burden of proof is always upon the party attempting to show that the physician has been guilty of lack of skill or of want of care. This has been held to be the law in a number of cases,* whether the question arises in a suit against the doctor for malpractice, or whether the issue is raised in a suit begun by the doctor against his patient for the recovery of fees, and incompetence and negligence are pleaded by the defendant as a defense to the action.

The general rule regarding the burden of proof is very well stated by Justice Mayham as follows: "The burden of establishing affirmatively either want of ordinary skill, or a failure to use his best skill, or some negligence in the care or attention of the plaintiff's case, which resulted to her injury, must be met before she can recover." †

And so in a case where the patients had sustained a Pott's fracture and the physician, so the evidence seemed to indicate, diagnosticated and treated it as a fracture of both bones at a point about five inches above the ankle, the court held there was no evidence upon which to sustain a verdict of damages for permanent injury by stiffening of the ankle joint. In this case an expert witness introduced by the plaintiff stated, on cross-examination, that he recognized the fact as an expert witness that a Pott's fracture will probably leave the joint in a permanently inferior condition, even when the very best surgical skill is employed, and is employed at the most opportune time, and under the best circumstances. In answer to the question, "You are not prepared to say to the jury that the present condition that the plaintiff presents is due to the fact of what he says in regard to the treatment he received at the hands of Dr. ——?" the expert replied, "I have not said it."

The court said: "It seems to us, therefore, that the case is absolutely barren of any evidence from which it may be inferred that the permanent injury which the plaintiff would suffer had come from any neglect or want of skill on the part of the defendant." *

But what is the character of proof required by the courts to fix liability upon the physician for the unfortunate results attending his treatment?

The case of Pettigrew *vs.* Lewis *et al.* † is instructive upon this point. The plaintiff had undergone an operation for strabismus. The evidence given by the plaintiff was that prior to the operation her eye was strong and in good condition, except as to the affection for which it had been treated; that the operation was successful in straightening the eye, but that afterward neither eye was as strong as before; that some time after the operation she had "a spell of sore eyes"; that the lids were afterward inflamed and her "eyes watered" when she went out in the wind or cold; that she found on attempting to use her eyes that they were weak, and that it was necessary to bring objects close to her in order to see clearly. This, it seems, is about the extent of the evidence offered on behalf of the plaintiff. The supreme court, in reviewing the case, discourses very comprehensively upon the character of evidence required in such a case to fix liability upon the physician. The following liberal extract is therefore taken from the opinion:

"To maintain her action, the plaintiff should have offered the evidence of skilled witnesses to show that the present condition of her eyes was the result of the operation, and that it was unskillfully and negligently performed. 'This evidence must from the very nature of the case come from experts, as other witnesses are not competent to give it, nor are juries supposed to be conversant with what is peculiar with the science and practice of the professions of medicine and surgery to that degree which will enable them to dispense with all explanations.' ‡

"'The question whether a surgical operation has been unskillfully performed or not is one of science, and is to be determined by the testimony of skillful surgeons as to their opinion, founded either wholly upon an examination of the part operated on, or partly upon such examination, and partly on information derived from the patient; or partly on such examination, partly on such information, and partly on facts conceded or proved at the trial; or partly on such examination and partly on facts conceded or proved at the trial.' # It would have been easy for the plaintiff to have submitted to an examination by an experienced physician or oculist capable of determining whether the condition of her

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* Chase *vs.* Nelson, 39 Ill. App., 53; Robinson *vs.* Campbell, 47 Ia., 625.

† Winner *vs.* Lathrop, 67 Hun, 511.

* Smith *vs.* Drummond, 6 N. Y. Supp., 242.

† Pettigrew *vs.* Lewis *et al.*, 46 Kan., 78, 26 Pac. Rep., 458.

‡ Tefft *vs.* Wilcox, 6 Kan., 46.

McClel. Mal., 304.

eyes was the result of the operation, and whether that operation was performed with reasonable skill and care. Cases may arise where there is such gross negligence and want of skill in performing an operation as to dispense with the testimony of professional witnesses; but not so in the present case. It is not conceded or proved that the weakness of her eyes had materially resulted from the operation; and even if it was the question would still arise, Was she in a fit physical condition to undergo the operation? Did the defendants, before beginning the operation, make due examination to determine her condition and the necessity for an operation? Was the operation performed in a careful and skillful manner? What was the standard of professional skill and scientific knowledge required of these men in that locality? Was the after-treatment and were the directions given for the subsequent care of the eye such as would meet the approval of the profession in its present advanced condition? If a mistake was made, was it a case of reasonable doubt or uncertainty or a mere error in judgment, for which there is no responsibility? It was the duty of the defendants to exercise ordinary care and skill; and, this being a duty imposed by law, it will be presumed that the operation was carefully and skillfully performed in the absence of proof to the contrary." *

Exceptions.—It will be observed that in the foregoing statement the court says: "Cases may arise where there is such gross negligence and want of skill in performing an operation as to dispense with the testimony of professional witnesses." This, in other words, means that cases may arise in which a presumption of unskillfulness or negligence on the part of the physician will arise from the condition in which such treatment has left the patient. Such a case, it will be clearly seen, forms an exception to all of the rules above laid down for proving negligence and incompetency. A recent Minnesota case appears to illustrate this exception. In this case, however, the evidence is so meagrely stated in the report that it can not be determined with certainty whether the opinion of the court was based upon the mere condition of the patient or whether there was evidence before it of particular acts of negligence or unskillfulness which the record fails to disclose. The case was as follows: The patient had suffered a miscarriage, having been delivered of a five-months-old fœtus. The physician removed the placenta, but in so doing permitted a piece of it about two inches long and two thirds of an inch thick to remain; blood poisoning and a septic condition of the patient ensued from which her left leg became gangrenous, necessitating amputation. Whether there was any evidence offered showing that the defendant's treatment was improper may be reasonably doubted from the report of the case, wherein the court, upon this question, simply says: "Unexplained, the evidence was sufficient to justify the conclusion that the defendant, in the exercise of that degree of care and skill which the law exacts of a physician, might and ought to have reasonably discovered and removed the remnant of the afterbirth." † A proper deduction from this seems to be that the condition of the patient bespoke improper professional treatment, which it became incumbent upon the defendant to explain; thus forming an exception to the general rule prescribed for proving the physician's liability.

Another case which seems clearly to be an exception to the rule is that of Lewis *vs.* Dwinell,* in which the defendant, after repeated examinations, informed the plaintiff that she was "all right," notwithstanding she had sustained a serious rupture of the perinæum. Upon the question of the defendant's liability as shown from the evidence and from the plaintiff's condition, Justice Haskell said: "If the defendant knew of the rupture and concealed it from the plaintiff, neither taking measures for its repair or relief himself nor giving an opportunity for other professional skill to be employed, little can be said in his excuse. But if the defendant neither discovered the lesion nor had any knowledge of it, a different question arises: Was he professionally negligent in his examinations? He was a physician of seven years' practice, a graduate of Boston University, and must have possessed the ordinary skill and learning required in such cases. His failure then to discover, after repeated examinations, the serious injury from which the plaintiff was suffering, must be held to be actionable negligence. Reasonable attention from a physician of ordinary intelligence would have discovered so palpable an injury."

Upon the trial of a suit for damages resulting from malpractice, the liability of the physician is a matter to be passed upon by the jury, aided by the evidence of expert witnesses, who are supposed to enlighten them upon all matters of professional knowledge involved in the case, and guided in their deliberations by instructions from the trial judge upon the law applicable to the questions before them.

Pith of Current Literature.

The Cure of the Intractable Diarrhœa of Weaning by Suppression of Milk from the Dietary.—Dr. R. Saint-Philippe, of Bordeaux (*Indian Medical Record*, July 19th), says that it is the custom to speak of children as attacked with gastro-enteritis. In his opinion it would be more correct to call it gastro-intestinal dyspepsia, for the digestion is disordered and the diarrhœa is the result. The abdomen is swollen, soft, flabby, and without pain; sometimes it is tense, hard, and painful, and the lymphatics and glands are affected. Regurgitations and vomiting are frequent. The motions are fœtid, liquid, or puttylike; much more frequent by day than by night. The liver is swollen and sensitive to touch; emaciation progresses; the cachexia deepens, and the shadow of a coffin looms before the eyes of the physician and of the family, now really and justly frightened.

It is under these circumstances and to remedy this evil that well-established custom ordains that we should prescribe a diet of milk, either mixed or plain. It is against this custom, bad in his opinion, that the author desires to raise his voice and to adduce proofs. In such a case, milk is not only useless, it is injurious. It keeps up the trouble. He has observed this fact sufficiently often to make this contrary assertion without hesitation.

The author refers to cases in which this diarrhœa existed and the infants were given milk, and more milk, and nothing but milk, the diarrhœa continuing, however, and getting worse. But the cessation of milk food with return to an ordinary and carefully progressive diet, accompanied by certain prescriptions, hygienic and medicinal, were sufficient to change the whole condition of affairs. The stools diminished from day to day and lost their foul appearance and smell, color returned to the face, and the child became merry and bright and gained weight.

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* State *vs.* Housekeeper, 70 Md., 171.

† Moratzky *vs.* Wirth, 67 Minn., 46.

* Lewis *vs.* Dwinell, 84 Me., 497.

We must not forget, says the author, the fact that milk does not come as a panacea to all digestions. Many adults prove this sufficiently. In order to tolerate and digest milk, it is, above all, necessary that the secretion of pepsin should be normal. Admitting that the milk is irreproachable in every respect, still it is necessary that it is accepted by the stomach and intestines and that it undergoes, thanks to their secretions, all the necessary metamorphoses to cause it to be absorbed by the organism.

The author treats these cases by stopping absolutely and completely the administration of milk and milk foods and restoring nourishment suitable to the infant —at first decoctions of the starch of cereals, water containing egg albumen, weak tea, weak coffee, with plenty of sugar, malt, or Alet or Vals water, sweetened with small quantities of "syrup of punch." Skin friction, by exciting the action of the skin, is useful; the action of the kidneys must be regulated and dyspepsia must be combated. Hot salt baths, injections of artificial serum, and inhalations of oxygen are needed to restore strength; but above all things the discontinuance of milk the author deems essential.

Ovarian Pregnancy.—At the Third International Congress of Gynæcology and Obstetrics, recently held in Amsterdam, Mlle. Catharine van Tusschenbroek, of Amsterdam (*Lancet*, August 19th), said that the specimen which was the object of the demonstration was obtained by an operation of Professor Kouwer, of Utrecht. The case was one of hæmorrhage into the peritoneal cavity with all the characteristic clinical symptoms of ruptured ectopic pregnancy. The patient was thirty-one years of age, the mother of five children, and was in good health until the moment of the catastrophe. Her last menstruation was six weeks previously. The diagnosis of ruptured ectopic pregnancy was made and laparotomy was performed at once. As soon as the abdomen was opened a great quantity of dark-colored blood gushed forth. The patient was brought into Trendelenburg's position. The uterus proved to be soft and somewhat enlarged. The left ovary and tube were normal; at the right ovary was found a tumor as large as a walnut, to which blood clots adhered. The right ovary and tube were removed. The tube was quite normal; the fimbriæ were somewhat conglutinated, but the lumen was free. Pathological adhesions between the ovary and the tube did not exist. The tumor and the ovary showed near the top the place of rupture, from which a ruddy fringe came forth. After being hardened the specimen was opened by a median section going through the fringed opening. By this section the gestation sac in the tumor was cut in two halves and an embryo appeared of about twelve millimetres in length, fixed by a short and thick umbilical cord. Macroscopical inspection left no doubt that the case was one of ovarian pregnancy. Microscopical investigation showed that the impregnated ovum had developed within a Graafian follicle. That was proved by the fact that the wall of maternal tissue which surrounded the ovum showed the structure of the ruptured Graafian follicle —the well-known corpus luteum. Decidual transformation of the connective tissue in the ovisac was nowhere to be found. The fœtal elements were quite the same as in normal uterine placentation. The fœtal villi showed the plump and irregular forms which belonged to this early stage of pregnancy. Their epithelial investment consisted of two layers—Langhaus's cells and the syncytium. The latter was in many places ciliated. The conclusions which Mlle. van Tusschenbroek came to were as follows: 1. Ovarian pregnancy was a fact. 2. Ovarian pregnancy meant pregnancy in a Graafian follicle. 3. The wall of the pregnant Graafian follicle not being transformed into decidual tissue they must conclude that for the implantation of the ovum Webster's decidual reaction was not a *conditio sine qua non.* 4. One piece showing a regular development of characteristic syncytium, they had a new and incontestable proof that syncytium had nothing to do with uterine or tubal epithelium and was an offspring of the fœtal ectoblast.

Locomotor Ataxia and Syphilis.—Dr. Albert S. Ashmead (*Journal of the American Medical Association*, September 2d), referring to a statement that "Professor Erb, from his researches in one thousand cases, believes that 'tabes' (locomotor ataxia) is almost without exception due to syphilis," asks how Professor Erb would explain the fact that in Japan, where syphilis has scourged the population for thirteen hundred years, locomotor ataxia is unknown. In a venereal clinic of ten thousand cases Dr. Ashmead did not find a single case of locomotor ataxia, nor did he meet a native physician who knew of such a disease as "tabes."

Opposed to this opinion of Professor Erb, says the author, in Germany there stands that of Professor Virchow, who believes that syphilis has no relation whatever to locomotor ataxia.

Upon this the editor of the *Journal* comments as follows: "Apropos of the above from Dr. Ashmead, we quote the following abstract from the August number of the *Journal of Nervous and Mental Disease*, referring to a paper on Tabes Dorsalis und Syphilis, by A. Guttman (*Zeitschrift für klinische Medicin*, 35, 1898, p. 242): 'The reaction, evident of recent years, against the view of the ætiological significance of syphilis in tabes is made more pronounced in the statistics of the author. In all, some one hundred and thirty-six cases of tabes were closely studied, and of these, deducting six doubtful cases, 28.6 per cent. had had syphilis, while 71.4 per cent. were distinctly nonsyphilitic.' The author also considers the evidence derived from the fruitfulness of syphilitic medication, and gives his approval of the general methods used to strengthen the body—baths, massage, and electricity."

Typhoid Fever in the Insane.—Dr. George Boody, of the Iowa Hospital for the Insane (*Journal of the American Medical Association*, September 2d), in a paper on Typhoid Fever presented to the association's meeting at Columbus, arrives at the following conclusions: 1. Cases of inverted typhoid fever are comparatively rare, and the subject is deserving of thorough investigation as often and wherever an epidemic occurs, with the object in view of determining the relative frequency of the disease; and in doing this all the methods for confirming the diagnosis should be rigidly applied in each suspected case. In these two epidemics it occurred but once in forty-three cases.

2. Of the patients who recovered, twenty-five per

cent. showed marked improvement in nutrition and muscular strength, while the ramining seventy-five per cent. only reached their former condition in these respects. Compared with previous observations it would seem that insane patients with typhoid fever do not show such a degree of improved nutrition after recovery as do those without the mental complications. The patients who improved mentally showed a corresponding favorable change in nutrition, and those whose mental status returned to normal made the most striking changes in this direction. This may not be true, except for these two epidemics, but in them is beautifully illustrated the profound influence that the mind exercises over the processes of nutrition and assimilation.

3. Of this number, 16.6 per cent., all dementias, seemed brighter mentally but relapsed as soon as convalescence was completed, except one case which continued some little time longer; 2.77 per cent., all melancholias, made partial recovery and one is just fairly able to resume the ordinary duties of life; 5.55 per cent., one a case of catatonia and one of acute mania, regained completely their former mental status. The behavior of the cases of dementia would lead one to think the fever had some slight influence upon the mental condition, but it is of no value, since the relapse occurred so soon. Such cases are always beyond the possibility of recovery. The prognosis in melancholia is favorable for some improvement, and it is only fair in this one case to assume that the fever played no important rôle in the partial recovery, since the change was no more than was predicted previous to the fever. The prognosis for recovery in acute mania is generally favorable; and in this case it was regarded as specially hopeful some time before the attack of typhoid. The recovery was rapid and complete and took place at about that period in the course of the mental disturbance at which a change might be expected had he not had the fever, hence one would not be justified in giving to the latter any prominence as a curative factor in connection with the insanity.

The Therapeutic Principles Underlying the Treatment of Typhoid Fever.—Dr. L. F. Rousch (*Journal of the American Medical Association,* September 2d), in a paper read before the Columbus meeting of the American Medical Association, says that an experience founded on the treatment of a hundred and forty-three cases in the last four years has taught him the value of certain remedial measures about which he can not be mistaken.

First Therapeutic Principle.—The bowels must be acted upon by cathartics. Calomel is the best; from two to six grains once a day for the first six or eight days. Give it, diarrhœa or no diarrhœa: if no diarrhœa, to prevent it; if diarrhœa, to cure it. The typhoid stool must be changed to a bilious stool, or at least to a stool with little odor. It should be always given at any stage for the diarrhœa which has the typhoid stool, but be observant enough to know when you have the action of your medicine, and do not confound the free action from the calomel with diarrhœa, or the diarrhœa with the action of the calomel. You can combine sodium bicarbonate or salol with the calomel if you desire.

The second agent is salicylate of ammonium or sodium. Dr. Rousch prefers the ammonium, as it agrees better with the stomach, and is probably more of a stimulant to the heart, and possibly to the secretions and excretions. Five grains every two hours is the average dose, continued night and day, while fever remains above 102° F. in the evening; when it falls below, then only during the day. This is continued from first to last. If it disagrees with the stomach, add aromatic spirits of ammonia or spirits or compound tincture of cardamoms. Sometimes it disagrees at first, but it will not continue to disagree after the first three or four days.

"What is the effect of this combined treatment?" asks the author. In four days, usually, but scarcely ever later than the end of the fifth day, the fever is permanently lessened, the patient comfortable, the pulse full and not fast, no tympanites, the skin and tongue moist; he sleeps at night, is not sick; you would scarcely know he had fever if you did not use the thermometer. He goes on in the same way to the tenth, twelfth, fourteenth, sixteenth, and sometimes to the twenty-first day, but rarely so long, and is free from fever, is convalescent. This usually occurs about the eleventh to the sixteenth day.

But some other measures are to be mentioned. All the water the patient wants, all the tea or coffee he may wish to have, should be given. Sponging the surface once, twice, or even three or four times a day with water is agreeable to the patient. If fever is very high, when at its hyperpyrexia, use cold water. The higher the fever the more sponging is necessary; it always helps the patient. All the foregoing measures are for the reduction of fever and the elimination and destruction of germs and toxines.

Second Therapeutic Principle.—Do not give food, says the author, at first, unless the patient desires it. As a rule he needs no food until we have eliminated from his blood, tissues, and urine the greater portion of the toxines. It is useless, worse than useless, it is injurious, to give food during the first week of the disease; besides all this, it is unphysiological. The patient is living upon himself. Let him live that way. It is Nature's way, and do not burden him with material which further disorders the digestive, assimilative, and excretory powers. Nothing is gained, but a great deal is lost, and what is the sense in forcing food on a patient who loathes the very sight of it? Nature never speaks in louder tones than she does in this way, but we do not listen. We are governed by an idea, a theory, and we insist on carrying it out.

Time and again Dr. Rousch has seen more diarrhœa and more fever produced by the improper use of food at an improper time, and his rule is very little food during the first eight or ten days, as he knows from observation the patient is better off without it, and will become convalescent sooner.

Third Principle.—No patient in the author's opinion has been treated exactly right who has or continues to have tympanitic bowels. It is the worst symptom, aside from events like hæmorrhage or perforation, that the patient can possibly have, even if the tympanites is only moderate, and especially if very great. Nearly every patient that dies has tympanites, has had it nearly all if not all the time. Why, he asks, is it a bad symptom, a dangerous symptom? Because it greatly lowers the powers of life. The pulse gets weak and quick. The patient is restless, can not sleep; delirium and unfavorable symptoms supervene.

What are the causes that bring about this condition? Continued typhoid stools, intoxication from the same, the lessening of the powers of the whole nervous system, but especially of the great sympathetic system. Gas is generated in the bowels, distention arises for want of muscular power from the innervation, until the muscular coat of the bowels is unable to contract, and peritonitis and death result.

This, says the author, is no fancy sketch; we have all seen it take place dozens of times in all probability. If, unfortunately, we have this condition, what, he asks, is to be done? Administer small doses of calomel and salol frequently repeated, and large doses of strychnine; also equal parts of turpentine and camphor liniment to the bowels. This will very likely overcome it, if it has not gone to that stage where too great distention has taken place, or peritonitis has supervened.

After the tenth day Dr. Rousch usually gives strychnine and continues the same up to and during convalescence, then diluted hydrochloric acid is given in place of salicylate of ammonium three or four days after fever disappears.

The administration of food begins after the sixth, eighth, or tenth day; the first choice is always milk—sweet milk, or good fresh buttermilk; fruit juices from first to last. The patient will often relish some kind of fruit juice at the first. It is not a food in one sense, but every one knows its beneficial influence in sickness or health. It does not derange the stomach or bowels; it refreshes, makes the stomach better, and helps the patient in ways that we know nothing about, physiologically. It ought to be given as a rule with but few exceptions. Do not use a bedpan. Let the patient get up. The author's patients get up themselves; they know what they are about; they are not too weak. Do not let that bugbear, perforation, scare you out of your wits. It does not often occur; Dr. Rousch practised thirty-two years with two cases only. It helps the patient to get up, gives him an airing, changes his position, and he feels better afterward. Dr. Rousch is satisfied that it arouses his vital energies and is a factor in preventing his getting into that dormant state which he saw so frequently in his early practice.

The Primary Channels of Tuberculous Infection in Childhood.—Dr. George F. Still (*British Medical Journal*, August 19th), in a paper presented to the last meeting of the British Medical Association, arrives at the following conclusions:

"1. The commonest channel of infection with tuberculosis in childhood is through the lung. 2. Infection through the intestine is less common in infancy than in later childhood. 3. Milk therefore is not the usual source of tuberculosis in infancy, perhaps owing to the precautions taken in boiling, sterilizing, etc. 4. Inhalation is much the commonest mode of infection in the tuberculosis of childhood, and especially in infancy. 5. The overcrowding of the poorer population in the large towns is probably responsible for much of the tuberculosis of childhood, and prophylaxis must be directed to the prevention of this overcrowding, the improvement of ventilation, and the inculcation of the extreme importance of fresh air during the earliest years of life."

Transfusion in Diabetic Coma.—Dr. Thomas Oliver (*Lancet*, August 26th) says that there are physicians who do not believe in transfusing with saline solution diabetic patients who are suffering from coma, but he records the case of a patient who lived two hundred and forty-three days after the operation and who died at a lengthened interval after the transfusion apparently from diabetic coma in the short space of two hours. He does not know what is the longest period a diabetic patient attacked with coma has survived transfusion. It would be interesting, he thinks, to know this, and with the object of eliciting this information he has thought it worth while publishing this case.

A Rare Obstetric Accident.—Dr. H. Mallius (*Lancet*, August 19th) attended on July 29th a woman, a primipara, with reference to whose case he was rather anxious, as she had early in her pregnancy exhibited a tendency to eclampsia. On arrival at her house he was told that she had already had two slight "stoppages." Finding the os to be fully dilated, he gave chloroform and proceeded to apply forceps. The blades slipped over the head with the greatest facility, but when it came to locking the handles, that of the upper blade refused to coapt with its fellow notwithstanding the most careful manipulation. After several failures he decided to withdraw the forceps and reapply them. The lower one came away easily, but on attempting to extract the upper one he found it impossible to do so for more than a certain distance. On seeking for the cause of the difficulty the tip of the blade could be felt to be wedged between the head and a much smaller body of an equally firm nature. Any traction on the handle only served to bring this smaller body lower down and increase the impaction of the blade. As the pains were strong and regular and the head was steadily descending, he determined to leave things to Nature and await the solution of the puzzling phenomenon, doing nothing beyond guiding the handle of the imprisoned blade in the right direction. As the delivery of the upper shoulder and arm followed that of the head the tip of the blade came into view, resting in the bend of the elbow, the hand and forearm having through some extraordinary mischance slipped through the fenestra of the blade. As might have been anticipated, the arm was for some days somewhat deficient in power as a result of the accident, but at the time of writing was steadily improving. Never having heard of such a case, Dr. Mallius wrote to Dr. G. E. Herman, the experienced author of *Difficult Labor*, to ask if he had ever met with a similar one. In a courteous reply he stated that he had never met with, or heard of, such a case.

The Malignity of Paludism in Cuba.—The *Sanitarian* for August reproduces from the *Journal d'hygiène* for June 22d an article on this subject by Dr. Jean Manuel Espada. Dr. Espada says that of all the diseases that prevail in Cuba there is not one that is more destructive of life than paludism or marsh fever. Americans are, very justly, most seriously occupied with yellow fever. But, he asks, can a disease that deals lightly with the natives, that does not attack all foreigners, that often attacks them very lightly, and which produces among those attacked a mortality of twenty or twenty-five per cent., and, finally, which is not subject to relapse, be compared with that other disease that respects no one, that attacks all the inhabitants indiscriminately—to-day or to-morrow or later—if the locality possesses the elements essential to paludic fever, and which may return many times during a lifetime; that invades the whole organism for an indefinitely long period if not for life; which prepares the way for other morbific agents, and which, in fine, constitutes what the ancients called a diathesis, always open for new forms and disposed to aggravate all other intercurrent diseases? Such a comparison is not reasonable unless it is for the purpose of recognizing the far greater malignity of paludism over yellow fever and even over typhoid fever, dysentery, and other diseases that seem more destructive.

A victim of paludism—in other words, of malarial fever—whose power of resisting disease has been diminished, whose constitution has been undermined after an attack more or less protracted, is seized with grippe, with a pulmonary catarrh, or an enteritis, and dies. The statistician registers the fact, and the report is: Died of grippe, of pulmonary catarrh, of enteritis; but none of these diseases would probably have attacked the patient had it not been for the persistent malaria. The real cause of death is therefore ignored.

An abscess of the liver is formed or a sclerosis of the gland exists during an attack of this paludism, a nephritis with albuminuria, an impoverished condition of the blood, and similar conditions likely to prove fatal in consequence of previous debility and the inroads made on the constitution; but the statistics will not allude in any way to the real cause of death.

Paludism is no longer considered incompatible with tuberculosis. On the contrary, the coexistence of the two diseases is well known. The same is true of other diseases, for tuberculosis seems to be a reservoir toward which other diseases flow as affluents.

But the subject must be considered from another point of view. In all countries that are essentially paludic, all or nearly all the inhabitants are attacked with the disease in a greater or lesser degree. One has the characteristic color of the integuments, in another the digestion is weak; again the liver or the spleen or both at the same time may be enlarged, while others are affected in different ways. Very rarely do we find a person who enjoys perfect health. If occasionally some one is seen who enjoys apparent health there will always be found something latent in the constitution that indicates the working of the disease.

There seems to be a prevailing opinion that paludism as a disease has been nearly eradicated. Not so. It is in such cases the intercurrent diseases that appear on the surface or the more or less remote effects coincident with the disease that mislead the observer. A powerful influence must be assigned to the action of malaria, whether it is manifested as a new attack or exists as a latent element on the appearance of another disease, or, again, is fully developed and reacts on some other disease. In all these complex cases paludism is a dangerous host which sometimes obscures the diagnosis to the prejudice of the patient, influences the prognosis, and limits or completely paralyzes all remedial agents.

Curative medicine has only a relative action though a cure is not always impossible. The majority of the sick get comparatively well, but they still live in an infected locality, and it is evident that immunity does not exist in any case, for it is known that one attack always prepares the way for another until the case becomes chronic unless the patient changes his locality.

Too much must not be expected from medicine in cases in which it is manifestly powerless. Hygiene, with the aid of allied sciences, must point out the remedy. Sanitation, proper drainage, pure water, must save the individual. With medicine alone the problem will always remain unsolved, disease will menace health, and, what is worse, will finally triumph.

Permanganate of Potassium in Morphinism.—Dr. Alexander Irvine (*Virginia Medical Semi-monthly*, August 25th) draws attention to the antidotal power of permanganate of potassium to morphine, and advocates its use in the treatment of the morphine habit to combat in part the violent abstinence symptoms following on withdrawal of the drug.

The Diazo Reaction in Erysipelas.—M. Coste (*Gazette hebdomadaire de médecine et de chirurgie*, August 13th), in a Paris thesis, says that the diazo reaction appears in about two thirds of cases of erysipelas. It is constant in grave ones and those of moderate severity, but is exceptional and nearly always absent in benign cases. Its absence therefore is a hopeful sign in mild cases. In severe ones, however, when it has been present for some days and then disappears without general improvement of symptoms, a fatal issue is to be feared. In consequence of the regularity and intensity with which it appears in cases of erysipelas treated by cold baths it enables us to appreciate how valuable this treatment is for the elimination of toxines. Its prognostic value, says the author, is considérable in the course of severe erysipelas.

Clinical Observations upon Heart Disease.—Janeway (*Medical News*, August 26th), in a paper read at the Centennial Celebration of the Medical and Chirurgical Faculty of Maryland, said that he was rather incredulous in early medical life when the statement was made to one with heart disease, which from all methods of reasoning was a mitral insufficiency dependent upon organic cause, that he might outgrow it. The late Professor Austin Flint was wont frequently to cheer despondent patients with this hopeful outlook. Dr. Janeway records three cases, all in young girls, of long existing mitral systolic murmur, seemingly organic, which gradually disappeared. Two explanations are offered. The first would assert that during all the years of continuance of the murmur after its first onset in the course of inflammatory rheumatism or other acute febrile disease, there had only been a persistence of such a state as exists in the insufficiency of weakness following disease, and that at no time had there been any distinct thickening or shortening of the mitral valves. The most admitted under this theory would be perhaps some dilatation of the left ventricle, and especially of the mitral ring. It would also be asserted that as the patient became older the muscle force increased, and the base of attachment became firmer, thus diminishing the size of the orifice and finally allowing the valves to so close as to prevent leakage. Under another explanation it might be supposed that the thickening of the valves was not great, the shortening consequently trivial, and that the valve segments may have become united to such an extent as to prevent leakage, but not to so considerable a degree as to cause the evidence of mitral stenosis. Such an explanation occurred to Dr. Janeway's mind in two cases cited and induced him to endeavor to make out such a mitral presystolic murmur. But listen as he would he could not thoroughly satisfy himself as to its presence. This murmur, it might be stated, did not disappear because of heart weakness, for the patient since the murmur had been lost had been in better health than heretofore, and some of the previous restrictions had been withdrawn.

In two cases cited of Graves's disease, also with mitral insufficiency, the patients were markedly helped toward recovery by the assurance that their heart troubles were not incurable. The treatment consisted of strophanthus and iron, with the addition of digitalis when œdema of the extremities occurred. Galvanism of the neck was also employed. Complete recovery in one case, and recovery which was complete in all respects but the exophthalmia in the other, ensued.

As regards mitral stenosis, Dr. Janeway said that, contrary to the received opinion which confined the diagnostic auscultatory area to a limited space over and near the apex, in about one third of the cases a probable diagnosis could be made by listening at the back of the chest below the angle of the scapula, where a murmur could be heard, though not so loud or so plain as in front. The author thought that no form of heart disease was more often overlooked than mitral stenosis with only a slight presystolic murmur, and he urged greater attention to it on the part of teachers. In four cases cited by the author the first evidence of cardiac impairment was brought about by exercise at great altitudes.

Dr. Janeway called attention further to the substitution of the mitral systolic for the presystolic murmur as the heart's compensation became markedly disturbed.

The Diagnosis of Malignant Endocarditis. — Dr. Janeway (*Medical News*, August 26th), in a paper read at the Centennial Celebration of the Medical and Chirurgical Faculty of Maryland, said of the diagnosis of malignant endocarditis that the most frequent inquiry was, so far as the acute malignant type was concerned, whether the patient had possibly any of the malignant types of the ordinary infectious diseases. Especially might the mistake be made between purpura variolosa, cerebro-spinal meningitis, and typhus fever. Only in the large seaboard cities was the last fever likely to be considered. In trying to determine whether a given case was more probably due to endocarditis or to another malignant process he had found that attention to the position of the hæmorrhages was at times very helpful. Several times he had noted numerous small hæmorrhages with slight nodular character in the palms of the hands and in the soles of the feet, when possibly the arms and the legs had but a scanty crop in malignant endocarditis, whereas this had not been his experience with the processes likely to be mistaken for it. The presence of hæmorrhages in the conjunctiva was also more in favor of this disease, particularly if the inquiry was between it and typhus fever. While the presence of a heart murmur, together with the above events, suggested strongly ulcerative or malignant endocarditis, it was well not to argue thus without a definite basis. There existed no reason why a person with heart disease should not develop one of the malignant types of fevers. If a patient were in a hospital ward, hotel, or boarding house, then we were compelled to endeavor to solve the question at as early a period as possible with a view to the patient's isolation or removal if he should perhaps have another process than endocarditis. Hence we were obliged not alone to consider the probable diagnosis as made from the events, but also to institute an inquiry as to previous vaccination, and possible exposure to some disease within a recent period. There were certain phenomena in a doubtful case which had great weight, as the occurrence of embolic processes, as proved by the development of hemiplegia, aphasia, or by the proof of the blocking of an artery of the limbs. These phenomena would not occur in the other types of disease. A heart murmur, if none were known to have previously existed, or if the one previously present had altered in character, taken in conjunction with these phenomena made the diagnosis of malignant endocarditis as near a certainty as anything in medicine.

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of May 10, 1899.

The President, Dr. William L. Stowell, in the Chair.

Calculous Pyonephrosis.—Dr. Alvah M. Newman stated that through the kindness of Dr. Charles McBurney he showed a specimen of calculous pyonephrosis with multiple abscesses. The patient was about forty-nine years old, and for the past two years found some difficulty in lying on the left side; there was some tenderness, and occasionally the skirt bands troubled her. With these exceptions she enjoyed fairly good health. On the 4th of February, about midnight, she was taken with a severe attack of renal colic. These attacks continued for fourteen days with varying intensity and duration, and at the end of that time she passed a cast about an inch and a half long and a quarter of an inch in diameter, which looked like a fibrinated blood clot. Dr. James Ewing examined it and found it composed of pus and mucus. Immediately after passing the cast the patient's general condition improved. Previous to passing the cast the patient voided about eighteen ounces of urine, with but few pus cells, during the twenty-four hours. This evidently was secreted by the right kidney. Ten days later the patient passed four or five ounces of pus; this cleared the diagnosis, and the speaker advised operation. Dr. Tilden Brown catheterized the ureters; from the right urine flowed freely, from the left seven drops in eighteen minutes; the catheter was full of pus when withdrawn. Dr. McBurney removed the kidney on April 27th. A large calculus was found in the pelvis. For the ten days following the operation the patient averaged sixteen to seventeen ounces of urine; for the four days (end of two weeks), about thirty ounces. Temperature remained below 101° F.; pulse, 118 to 122; respiration, 24 to 26. Patient is now free from pain and doing well. Up to the time of passing pus there were no constitutional symptoms.

The President said this case was interesting in two or three ways, the most important point being that the patient was making an excellent recovery after the removal of such an exceedingly pathological kidney.

Dr. Adolph Rupp asked concerning the constitutional symptoms leading to the special diagnosis. Had there been any pain in the lumbar region simulating lumbar neuralgia or sciatica? The special symptoms in the beginning seemed to have been rather obscure.

Dr. W. L. Baner spoke of a case he had seen of pyonephrosis. The patient a year ago last winter was suddenly seized with a very sharp pain in the abdomen. When the speaker saw her she had a temperature of 103° F., a great deal of tenderness at McBurney's point, and rigidity of the abdominal muscles. He diagnosticated it as appendicitis, and the attending physician agreed with him. A surgeon who was called in decided that he would postpone operation, but said there was no doubt it was appendicitis. The following day the patient was much better and the temperature had gone down nearly to normal. On the third day the urine became very offensive and the examination showed that it was full of pus. That went on for some days and got worse; there was a tremendous flow of pus with all the evidence of coming from the kidney; then the patient began to get better and the pus disappeared almost entirely from the urine. The patient's general health improved, but she still considered herself an invalid. This winter she had had a bad cold, and following it the same history repeated itself, with the exception that the onset was less acute and there were a number of small calculi of uric acid passed. The speaker had a number of times advised operation to have the suppurating sac removed, but it had not been permitted as yet. He had no doubt there were calculi of considerable size there, and doubted if complete recovery was possible without operative interference.

Hysterical Blindness.—Dr. A. T. Muzzy read a paper on this subject. (See page 403.)

Dr. William M. Leszynsky said he had seen many cases. Before accepting the statement of the patient that she was blind in one eye, and before making an ophthalmoscopic examination and testing the vision, much could be learned by an examination of the pupils. He did not think ophthalmologists laid sufficient stress on such examination. If a patient complained of being blind in one eye, and he found upon investigation that the pupils were normal in appearance and in their reaction to light, he was led to conclude that the patient was not blind in one eye. But, if the pupil of the alleged blind eye did not react directly to light, but reacted vigorously when the other eye was suddenly illuminated, he at once assumed that the patient was telling the truth, and that there was some trouble in the eye. He spoke of a patient who had been under his care for some time with facial paralysis. One day she complained that she was totally blind in one eye. On examination he found that the pupillary reaction was very strong on *indirect* illumination, but it did not react *directly* to light, and further examination revealed œdema of the retina, which soon after manifested itself as a unilateral retrobulbar neuritis. Many of these patients had their vision improved by glasses, simply window glass, and that was accomplished through suggestion. Patients suffering from hysterical blindness thought they could not see, but they did see, however. It was merely a peculiar condition of consciousness which obliterated their vision. He had never seen a case of hysterical amblyopia with a central scotoma. The central scotoma referred to in the paper, an absolute scotoma, namely, for colors and for light, was more likely to occur in patients with organic disease—in retrobulbar neuritis. It was not unusual for such a condition to arise in the course of disseminated sclerosis. The history of a fall might have some bearing upon the case. The woman's age was not against it, although the disease occurred more frequently in younger people. The fact that she had a diminution of vision that had been progressive in both eyes, and a central scotoma, would lead one to suspect organic disease. When one finds a visual disturbance thought to be functional, every neurologist would consider the associated symptoms; that is, he would observe the patient from the standpoint of her general condition and as to other manifestations of hysteria. Very often there was a loss of sensibility on one side, not only anæsthesia of the cornea and conjunctiva with diminished vision, but loss of the senses of smell and hearing. It was hardly wise, in every case of eye trouble where there were associated symptoms, to consider them hysterical, because an hysterical patient was not exempt from any form of organic disease. These cases must be studied from the standpoint of neurology as well as from that of ophthalmology. The urine should always be examined. Diabetic patients were known to present similar eye symptoms. Probably Dr. Rupp, whose patient this was, could throw some light on her general condition. He himself had seen quite a number of patients with the various forms of amblyopia—blindness of one eye, blindness temporarily affecting both eyes, hysterical blepharospasm—and all of these patients recovered. They either recovered through attention to their general health and through suggestion in various forms, or they recovered spontaneously. It was mere guesswork to express an opinion as to the duration of such symptoms. A patient with hysterical aphonia, after application of the wire brush to the larynx, recovered six or seven consecutive times through suggestion. Afterward her aphonia returned, and she had been aphonic ever since (a period of over a year). He also referred to the case of a boy, about ten years old, whose father brought him and said the boy was blind in one eye. He was examined carefully, and absolutely nothing could be found to indicate blindness. He was examined repeatedly. It was at once found that he was not blind. When a strong convex glass was placed over the healthy eye he read all the letters on the card down to $\frac{20}{15}$, showing that he had normal vision in the supposedly blind eye. This was not an unusual experience in such cases. Soon after recovery occurred spontaneously.

Dr. A. Rupp said that hysterical blindness was from the point of view of the general practitioner but an interesting part of a large general subject, which was gratefully surrendered to the eye or nerve specialist, who could do as little for this evil as himself. The case of a man was referred to which had been diagnosticated by high eye authority as probably hysterical, but the man died several years later of pronounced brain disease. Concerning the present case reported by Dr. Muzzy, the urinary examinations had turned out negative. When not conscious of her blindness the woman walked well enough, but when in the house, surrounded by pitying friends, she walked in a clumsy way. The woman was nervous and neurasthenic. Besides the points already emphasized by Dr. Muzzy and Dr. Leszynsky, it should not be overlooked that the trouble might last for years.

Dr. H. S. Oppenheimer said that these cases occurred quite frequently. The previous speaker had recited the case of a boy, ten years old, which reminded him of a case of his in a boy of about that age. The story was that in coming home from school a little boy had thrown a handful of sand in his right eye and he had been unable to see since. He was very much alarmed about it. On exposing the eye that he apparently was blind in he could not see the speaker's fingers: all this with a perfectly calm, assured face. In testing him with prisms he could see two lines easily; then, by covering the *good* eye with a strong convex glass, through which he could not possibly see at a distance of twenty feet, the boy read very well at that distance. The speaker sent him into the parlor and told his father that he was not blind, but that he probably thought he was, explaining the test by which he came to the conclusion that the boy could see very well. The father was incredulous, but on putting on the glass himself found he could not see across the room. He tried the boy again and found, of course, that he read well with the eye that he supposed was blind. The father wanted to know what he should do, and the speaker advised some tonics and an eye water, largely as a matter of suggestion. About a week after the father came back with the boy and said that he was surely blind, and the speaker had to go through the same argument with the father again to show him that the boy was not blind in that eye, and he went away satisfied. He came back a third time to have this argument renewed, and said he would bring the boy about once a month. He never brought him again. He probably came to his vision before there was any occasion to bring him.

A case which the speaker had treated about ten years ago was that of a young lady, at that time eighteen or twenty. She was a music teacher. Her father had been insane for years; the mother was a very nervous woman, now dead. This young girl, who was a sensible, bright young woman, came in a most terrible condition of mind. She had gone to two or three different oculists who had simply laughed her out of court, as it were, and not given her any satisfaction whatever. She finally came to the speaker, who found that the eye which she thought was blind, so far as the ophthalmoscopic appearance was concerned, was absolutely normal. She could not see a thing, so far as she knew, when she knew she was looking with that eye. He told her that she would get well, but was rather short about it, and she went home a little crestfallen. She came back in the morning in the greatest state of excitement and said she had looked up the matter and did not think that she could see double with prisms, as she had done, unless she could see with the eye she was blind in; that it had kept her awake all night and got her into a state of tremendous distress. He told her she was not going crazy, she could see two lights as she was improving, and with tonics and other treatment she would get well. He reassured her, for if she had thought she could see all the time when she was satisfied she could not, she would take it as the first symptom of insanity and destroy herself. He told her that the color field would come back rather rapidly after taking the strychnine. It was suggestion more than anything else. In two or three months she was *conscious* that her eye was all right. He wished to emphasize that the great difficulty in diagnosticating these cases was not so much as to whether the trouble was organic or functional, but to judge between malingerers and people who were hysterical or had functional trouble. He spoke of a patient who had been in the Prussian army who insisted he could not see. The eyes apparently were absolutely normal. The man had been helped because people were sorry for him. His wife used to bring him around, and the speaker was satisfied that the man was not blind. He tried nitrite of amyl, everything that could be suggested, and the man persisted that he could not see, and eventually passed out of his observation without the least acknowledgment that he had received any benefit. He was still in doubt as to whether it was simulation, or there was something in that man's brain which prevented his seeing with a healthy nerve and retina. The condition called hysterical amblyopia showed itself just as much in the male as in the female. There might be paresis of the eye muscles in hysteria, which had been doubted and disputed by a great many good authorities. Many of them insisted that in the vast majority of cases it was nothing but the spasm of the opposing muscle.

(*To be concluded.*)

Book Notices.

A Manual of Surgical Treatment. By W. Watson Cheyne, M. B., F. R. C. S., F. R. S., Professor of Surgery in King's College, London, etc.; and F. F. Burghard, M. D. and M. S. (Lond.), F. R. C. S., Teacher of Practical Surgery in King's College, London, etc. In Six Volumes. Volume I. The Treatment of General Surgical Diseases, including Inflammation, Suppuration, Ulceration, Gangrene, Wounds and their Complications, Infective Diseases and Tumors, and the Administration of Anæsthetics, by Dr. Silk. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. xiv–285. [Price, $3.]

We can hardly say too much in praise of the first volume of this work. In it the writers have adopted an easy yet forcible style which holds our attention throughout, for there are no long drawn-out historical sketches, but each subject is dealt with sharply, shortly, and to the point. The authors assume that their readers are already familiar with surgical diseases, and only refer to the diagnosis, pathology, and symptoms to elucidate the treatment. The book is therefore of value to students only in conjunction with other works on general surgery. It is noteworthy, too, that exceptional cases have been omitted and only such are described as are commonly met with.

The first volume is divided into sixteen chapters, and contains two hundred and seventy illustrations. It is small and compact and easily held in the hand for comfortable reading. The type is perhaps rather too small, but we can overlook this defect in view of the clear and concise division of each chapter. We have but little to dissent from in the volume. A few matters call for our consideration, however, and among them that of leeches, which the authors advise in the chapter on acute inflammation. These we would replace by more aseptic methods, such as position, bloodletting, cold, heat, and antiseptic fomentations. It is but fair to state, however, that all these receive mention.

Chapter ii, on acute suppuration, which includes circumscribed acute abscesses and diffuse inflammation of cellular tissue, is handled in a masterly manner. The elaborate arrangement of the mackintosh (there are two illustrations of this) could perhaps be done away with by the substitution of a Kelly pad, which would simplify the nursing. The devices spoken of later in the chapter are all interesting and valuable.

As concerns chapter iii, we have but one suggestion to make, for we think ether better than turpentine in the disinfection of ulcers, the sebaceous secretions being more soluble in the former, but, on the other hand, no doubt most ulcers would heal rapidly under the treatment advised.

Dr. Frederick W. Silk contributes the fifth chapter, on anæsthetics, and we note that he has omitted to mention the hypodermic injection of cocaine into the spinal canal for operations below the site of injection. This is, however, of small moment. Dr. Silk speaks disparagingly of the use of morphine in conjunction with a general anæsthetic. "The routine use of morphine, even in combination with atropine, is deprecated by most anæsthetists; its advantages are more theoretical than practical, and its tendency to mask the symptoms of overnarcosis has more than once led to fatal results." There is no denying that the use of morphine with an anæsthetic is only permissible in a few operations about the mouth, where the surgeon gives the anæsthetist but few chances to keep his patient quiet. We note a partiality for the A. C. E. mixture, which is perhaps not so popular with us as ether or chloroform alone. We are advised to use the A. C. E. mixture, especially in renal disease. For our part, we like nitrous oxide and oxygen, and to these the writer has given but little space, in spite of their growing popularity. Under the head of special cases, a preliminary injection of morphine is recommended, but this is hardly in accord with the remarks in the earlier part of the chapter. Nélaton's method of inverting the patient as a means of resuscitation we consider of questionable value. The chapter concludes with a description of Schleich's infiltration method, but does not indorse it except for minor operations.

Chapters vi to x describe the varieties of wounds with their complications and treatment, all of which are dealt with cleverly. We would hardly give traumatic fever a separate description, but rather include it under the head of septicæmia or pyæmia. The author states that "when it occurs, the reactionary pyrexia which often follows operations performed antiseptically runs up to 103° or 104° F. instead of abating, and then slowly begins to fall in an intermittent descent coinciding with the complete establishment of granulation. This condition of traumatic fever, unless it occurs in septicæmia or pyæmia, does not usually prove fatal; *at the same time suppuration always occurs in the wound.*" Under such circumstances we should fear that the asepsis had been faulty, and call the condition simply a septic one.

The four remaining chapters concern affections of cicatrices, syphilis, chancroid, or soft sore, tuberculosis, and tumors.

We rate the volume most highly, and we look forward with pleasure to the coming ones.

Cyclopædia of the Diseases of Children; Medical and Surgical. The Articles Written Especially for the Work by American, British, and Canadian Authors. Volume V. Supplement. Edited by WILLIAM A. EDWARDS, M. D. Illustrated. Philadelphia: J. B. Lippincott Company, 1899. Pp. xvi–1332.

THIS work aims to be, the editor states, a continuation of the *Cyclopædia* the last volume of which appeared ten years ago. It is in the same style, and in its make-up resembles the original work. It is well printed and contains a goodly number of excellent illustrations.

The volume is the product of eighty-seven different contributors, eighty of whom have written but one article each, and no one more than three articles. These cover the important topics in pædiatrics, and besides contain many articles of general scope and interest. Some of these are of great excellence; very many do not rise above mediocrity and add nothing to existing knowledge.

The work does not really give us the advances in pædiatrics in ten years. Had this been its scope, rigidly adhered to, a volume of the greatest value might have been produced. Several of the articles are of this character, and the success of them shows what might have been done in all.

Some articles have been reprinted from the original work with few or no changes; some have been the subject of revision by the original contributors; very many are articles by new authors upon subjects treated in the original work and in much the same way.

The result of the whole is a somewhat peculiar product. We have not here a text-book or a real supplement, but a sort of one-volume cyclopædia.

While it is a work which the specialist will hardly be willing to do without, yet it is to be doubted very much whether the general practitioner will find in it much which he does not now possess in his text-books in a more compact and agreeable form.

Traité de l'allaitement et de l'alimentation des enfants du premier âge. Par le Dr. A.-B. MARFAN, Professeur agrégé à l'Université de Paris, etc. Avec 22 figures dans le texte. Paris: G. Steinheil, 1899. Pp. xiii–442. [Prix, 10 fr.]

THIS is an admirable volume, bringing together a large mass of interesting and valuable material much of which has existed hitherto only in periodical literature.

It gives us the present status of infant feeding in France, and presents quite fully the opinions of German writers on the subject, and very briefly those of American and English writers.

The book opens with a chapter of 94 pages devoted to breast milk, its composition, tests of it, the conditions modifying the secretion, etc. Then follow chapters upon lactation, milk digestion, and the growth of infants.

The third part of the book is devoted to artificial feeding. In connection with this are discussed the sterilization and modification of cow's milk. Sterilization at high temperatures (230° F.) is advocated in all cases where the milk is not fresh when received.

The early age at which pure cow's milk is given to infants will strike the American reader as surprising. As a rule this is recommended for infants over four or five months old, and in many cases is advised at a much earlier age, especially for some wasted cachectic infants, with whom it is to be used in very small quantities.

In reading the chapters upon milk modification one is anew impressed with the immense advantage of the American method of stating the proportions of the milk ingredients in percentages, instead of using such terms as natural milk, natural cream, etc., or "the mixture" of this or that writer.

While we can by no means agree to all the conclusions of the author, the book is a suggestive one, and well worth careful reading by every one interested in the subject of infant feeding.

Clinical Lectures on Neurasthenia. By THOMAS D. SAVILL, M. D., Physician to the West-End Hospital for Diseases of the Nervous System, London, etc. London: Henry J. Glaisher, 1899. Pp. xv–144. [Price, 3*s.* 6*d.*]

THIS little volume consists of lectures delivered by the author in the Welbeck Street Hospital for Diseases of the Nervous System. The subject is of importance, and is too often neglected and slighted. While the author has added little or nothing to our knowledge of neurasthenia, he is to be commended for his endeavor to impress upon the profession the necessity of a better appreciation of what can be done for the unfortunate victims of the disease.

A Manual of Diseases of the Nervous System. By Sir W. R. Gowers, M. D., F. R. C. P., F. R. S., Consulting Physician to University College Hospital, etc. Third Edition, revised and enlarged. Edited by Sir W. R. Gowers and James Taylor, M. A., M. D., F. R. C. P., Senior Assistant Physician to the National Hospital for the Paralyzed and Epileptic, Queen Square, etc. Volume I. Diseases of the Nerves and Spinal Cord. With One Hundred and Ninety-two Illustrations. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xvi–692.

But little need be said of this, the third edition, of Gowers's great production. From the time of its first appearance, more than ten years ago, the work has everywhere received the cordial reception it so richly merits. It has a place among the greatest periodical text-books and is incontestably first among treatises on diseases of the nervous system. This, the first volume, treating of diseases of the nerves and spinal cord, has been carefully revised and considerably enlarged, new illustrations have been added, and there is an appendix, written by Dr. Batten, on the muscle spindle. The book embodies the results of vast personal experience and the most advanced thought on the neurological problems of which it treats.

Laboratory Work in Bacteriology. By Frederick G. Novy, Sc. D., M. D., Junior Professor of Hygiene and Physiological Chemistry, University of Michigan. Second Edition, revised and enlarged, with Frontispiece and Seventy-six Illustrations. Ann Arbor, Michigan: George Wahr, 1899. Pp. 3 to 563.

Among the many laboratory manuals on bacteriology which combine the essentials of bacteriological technics, principles, and description of species in such a way as to meet the requirements of special classes, this work is one of the most generally satisfactory. The present volume is largely directed to the needs of students beginning the study of bacteriology. The principles of the subject are set forth in the simplest possible manner, and only the elementary facts are here dealt with, but these are freely discussed. The author finds it desirable to include a description of the principles of the microscope, and gives detailed directions for its care, such as most instructors prefer to convey orally. This chapter occupies eighteen pages. Special topics in descriptive bacteriology and the subject of immunity are omitted, this matter being handled in lectures which supplement the author's course.

Nineteen non-pathogenic, thirty-one pathogenic species, and fourteen fungi are described. This makes a course which is far more extensive than is provided by any other undergraduate curriculum with which we are acquainted.

In the latter half of the work there are excellent chapters on animal experimentation, the preparation of various antitoxic serums, special media, and even collodium sacs and their use. The reader here becomes aware that the volume is really addressed both to undergraduate and to advanced students and special workers. In this department the writer's extensive acquaintance with his subject shows to excellent advantage. The page of description of streptothrices is a model of compactness.

Dr. Novy's work, therefore, gives a distinct personal impression of an expert bacteriologist and experienced teacher. It reminds one less of the burden of compilation than most other volumes of this class, and is well calculated to excite the lively interest in the subject which the author aims to induce in his students.

BOOKS, ETC., RECEIVED.

Asthma: Recent Developments in its Treatment. By Ernest Kingscote, M. B., C. M., L. R. C. S. Edin., Fellow of the Medical Society of London, etc. With Colored Frontispiece and Illustrations. London: Henry J. Glaisher, 1899. Pp. xii–183.

Over One Thousand Prescriptions or Favorite Formulæ of Various Authors, Teachers, and Practising Physicians. The Whole being carefully Indexed, and including most of the Newer Remedies. Second Edition, revised and enlarged. Detroit: The Illustrated Medical Journal Company, 1899. Pp. 3 to 222. [Price, $1.]

Claude Bernard. By Michael Foster, M. A., M. D., D. C. L., Professor of Physiology in the University of Cambridge, etc. New York: Longmans, Green, & Co., 1899. Pp. xi–245.

Handbook of Optics for Students of Ophthalmology. By William Norwood Suter, B. A., M. D., Professor of Ophthalmology, National University, Washington, etc. New York: The Macmillan Company, 1899. Pp. viii–209. [Price, $1.]

The Johns Hopkins Hospital Reports. Volume VII. Nos. 5, 6, 7, 8, and 9.

Transactions of the American Climatological Association. For the Year 1899. Volume XV.

One Hundred and Sixty-six Cases of Cancer of the Pregnant Uterus occurring since 1886. By George H. Noble, M. D., of Atlanta. [Reprinted from the *Atlanta Medical and Surgical Journal.*]

Advice to Gonorrhœal Patients. By Ferd. C. Valentine, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

Some Remarks on Chronic Bright's Disease. By Arthur R. Elliott, M. D., of Chicago. [Reprinted from the *Medical Record.*]

Chronic Interstitial Nephritis. Treatment of the Heart therein. By Arthur R. Elliott, M. D. [Reprinted from the *Journal of the American Medical Association.*]

Miscellany.

The Medical Service of the British Army and that of India.—The home service seems to be less attractive to our young British brethren than the Indian service. The *British Medical Journal* for August 19th says: "The result of the recent examination for commissions in the medical services announced in our columns last week can not be considered altogether satisfactory. In fact, it is anything but reassuring as regards the Royal Army Medical Corps; both the number of qualified candidates and the marks gained in that corps are disappointing. Only half the number of candidates wanted are secured. The Indian service secured twenty-two, and the home fourteen candidates; the latter service we presume will have to fall back heavily on nomination. There was not much difference between the actual highest and lowest marks gained in either service; but if the total marks are taken and divided by the number of competitors, it will be found that the Indian service averaged nearly three hundred marks more (in a minimum of eighteen hundred) than the home service. Of course under the system, which is understood to exist, of allowing successful competitors to choose which service they will take, comparison of results in a combined enumeration is rendered difficult and not of much value, except in regard to the relative popularity of the two services. By this standard the Indian retains its popularity on grounds perhaps difficult to explain, for we fear there is a good deal of discontent in that service. We have lately received several communications, with extracts from Indian newspapers, on the question of the pay of the juniors in the Royal Army Medical Corps in that country. The disabilities in that respect have been accentuated by the concession of simple military titles. For the first six years medical officers are paid on a scale fixed on a warrant issued many years ago, and now, of course, obsolete in all other respects. It will hardly be believed that, for the first five years, medical officers receive fifty rupees per mensem less than veterinary lieutenants, and no horse allowance. The rank of captain is also, as regards pay, not fully recognized until after six years' service. But the same inequalities exist higher up the scale; a lieutenant-colonel Royal Army Medical Corps receives four hundred and fifty rupees less than the colonel of a British battalion, and seven hundred and fifty rupees less than the commandant of a native regiment. A surgeon-general receives twenty-two hundred rupees a month, and a military officer of corresponding rank thirty-five hundred rupees. Without going so far as to advocate identical pay in all these ranks, yet it may be asserted that the glaring inequalities pointed out demand investigation and remedy. We have little doubt that the treatment of medical officers of the corps as regards pay in India has much to do with the failure of the service to gain popularity in the schools."

Overtraining.—Dr. Eugene A. Darling (*Boston Medical and Surgical Journal,* August 31st and September 7th) thus concludes an article on The Effects of Training, a Study of the Harvard Crews:

"The real condition at the bottom of overtraining is still obscure, but in the light of this inquiry certain possibilities are suggested as factors which may have to do with its causation.

"The first and most obvious one is the condition of the heart. We have seen that a great increase in size and strength is demanded of this organ and it may easily happen that it is called upon for more work than it is able to do, and that instead of establishing a compensatory hypertrophy it becomes dilated and weakened. A 'broken-winded' athlete is probably one with a dilated, flabby heart.

"The second possible factor is the condition of nutrition. This is more difficult of demonstration than the first. As already pointed out, the nutrition may be disturbed in two ways, either by an improper diet, in which the nutritive elements are not apportioned to the needs of the body, or by disturbed digestion, as a result of which the food taken into the body is not utilized. That both of these contingencies may occur has been sufficiently demonstrated.

"The third factor may be simple overwork. This is not so likely as the two preceding, for, when properly nourished, the capacity for work on the part of healthy young men is certainly much greater than that demanded in training. The peculiarity of training work, however, is its concentration. It may be that the excessive work accomplished in a brief space of time exhausts the muscles so that they do not recuperate before being called upon for a repetition of the work—that there is, so to speak, an accumulation of fatigue, and that this constitutes overtraining.

"The fourth factor which suggests itself is a nervous one, and this, while more intangible than the others, is unquestionably an important one. In the present state of our knowledge it can only be surmised, not proved. It is well known that there is a nervous fatigue entirely distinct from muscular fatigue and resulting from prolonged anxiety, from monotony of work, and from numerous other causes. It may be that anxiety about a coming contest, together with the prolonged mental strain of mastering the technicalities of such a difficult art as rowing or such a complicated game as football, may lead to a condition of nervous exhaustion, and that this nervous exhaustion contributes to overtraining.

"No one of these factors will account for all cases of overtraining and probably more than one cause must be admitted. At any rate, it is safe to suggest certain points which should be borne in mind in laying out any course of training. They are: 1, not to throw too much work upon the muscles, and especially upon the heart, until they are strengthened by preliminary work; 2, to watch the nutrition carefully, and 3, to avoid nervous fatigue by providing a certain variety of exercise, and by not confining the attention too closely to the approaching contest.

"Finally, this investigation has demonstrated that the physiological effects of training, on the heart and kidneys in particular, may approach unpleasantly near to pathological conditions, and that there should be some competent supervision to insure that the safe limits, when those are determined, shall not be passed."

Tobacco Smoke and Hypertrophic Rhinitis.—Dr. W. E. Dicken, of Kahoka, Missouri, writes to us suggesting that patients who are addicted to the use of tobacco and have hypertrophic rhinitis will find great relief by spraying the nose with a two-per-cent. solution of cocaine or exhaling tobacco smoke through the nose until the mucous membrane is thoroughly parched or seared by the smoke—the stronger the tobacco used the better. This is also, he says, very beneficial in hay fever. Tobacco smoke, being a strong antiseptic, will kill the microbes which are supposed by some to be the cause of the disease, and will reduce the irritability of the nasal mucous membrane.

An Army Medical Examination at Manila.—According to the *Boston Medical and Surgical Journal* for September 7th, recent orders constitute the medical officers on board the hospital ship *Missouri* into an examining board, for the purpose of passing upon the merits of candidates for commissions in the medical corps now serving in the Philippines. At the last examination, held during the past winter, the medical men serving in the Orient were debarred by distance from appearing as candidates. There are now several existing and expected vacancies in the corps, and these Surgeon-General Sternberg has justly decided should be filled from the score or more applicants who have rendered such valuable service at the front. The examining board is directed to convene as soon as Manila is reached.

Women at the University of Strassburg.—The *Lancet* for August 26th announces that the University of Strassburg, which, like the other German universities, has hitherto declined to admit women as students, has now authorized the attendance of those whose general education is found satisfactory.

A False Report of Plague in London.—According to the *Lancet* for August 26th, the report that a case of bubonic plague had been received at the Middlesex hospital is entirely unfounded. The *Lancet* on investigation found that not only had no such case occurred at the hospital, but no case in any way resembling plague had been under treatment. "It is to be regretted," says the *Lancet*, "that the lay papers do not seek corroboration of such statements before making them public, as needless alarm is thereby occasioned."

We cordially indorse this sentiment as of even greater importance on this side of the Atlantic.

The Military Medical Arrangements for the Philippines.—According to the *Army and Navy Journal* for September 2d, Surgeon-General Sternberg has directed Chief Surgeon Woodhull at Manila to begin immediate preparations for the enlargement of the medical department and hospital accommodations at Manila to conform to the increased army of sixty-three thousand men. As the time required for the construction of a large wooden hospital would be at least six months, it will be necessary to depend upon buildings already constructed, which may be obtained for the purpose, or upon tent hospitals. The quartermaster-general has been ordered to send to the Philippines five hundred hospital tents for use. It is suggested to Colonel Woodhull that as time will be required for the establishment of a tent hospital he should select locations and establish the hospitals without delay. He is also asked to report by cable on the number of female nurses he will require. The medical departments will send two hundred and fifty members of the hospital corps on the *Missouri* and twenty female nurses on the *Relief*. The nurses were asked for by Colonel Woodhull, who is told that medical officers are being sent as rapidly as possible. Four experienced surgeons of volunteers with the rank of major are now under orders for Manila, in addition to the commissioned medical officers belonging to the new volunteer regiments.

Christian Science as a Producer of Disease.—The following excellent and pertinent remarks appear in the *New York Times* for September 8th: "Much of the leniency with which 'Christian Science' and the many kindred frauds are regarded is due, presumably, to a general impression that when the 'healers' heal, as they occasionally do, a desirable object is attained, and that the victims of their incantations are the willing dupes of their own folly, and therefore not deserving of any very active sympathy. This view of the matter is not altogether without excuse, but it is a narrow, and consequently deceptive, view. Nobody, so far as we have noted, has yet emphasized, or even mentioned, the fact that the power, the very real power, wielded by the faith cure fraternity, a few of whom are well-intentioned fanatics and the rest unscrupulous money hunters, can be as easily used for the destruction of health as for its improvement. The key word to all of these mysteries is 'suggestion,' and he or she who drives away certain illnesses by starting the subliminal consciousness at work upon them is able by the same means to produce those same illnesses in a person entirely well. That precisely this thing has been done involuntarily was shown in the article by Dr. Seelye, upon which we commented recently. That it is done voluntarily and systematically we do not know, but in estimating the probability of such crimes one must take into account, first, their possibility; second, that they would be almost beyond detection and punishment; third, that they could obviously be made an effective implement of extortion; and, lastly, the mental and moral characteristics of the men and women who are living comfortably or heaping up big fortunes by the adroit manipulation of human credulity. Having given due weight to all these points, who will be bold enough to assert that faith killing is not going on as well as faith curing, that maladies are not created by faith as well as destroyed by it?"

The Portuguese Faculty of Medicine and Quarantine.—According to a telegram to the *New York Times* for September 8th from Oporto, the faculty of medicine has telegraphed to King Charles asking him to go there in person and "see the uselessness of the vigorous quarantine."

The physicians belittle the seriousness of the plague outbreak.

The Eleventh Annual Meeting of the Tri-State Medical Society of Alabama, Georgia, and Tennessee is announced to be held in Chattanooga on Tuesday, Wednesday, and Thursday, October 24, 25, and 26, 1899. Those desiring to read papers are requested to send titles to the secretary, Frank Trester Smith, Chattanooga. There is every reason to hope for a large and successful meeting.

The Mississippi Valley Medical Association.—The twenty-fifth annual meeting will be held in Chicago on Tuesday, Wednesday, Thursday, and Friday, October 3d, 4th, 5th, and 6th, under the presidency of Dr. Duncan Eve, of Nashville. The address in medicine will be given by Dr. J. A. Witherspoon, of Nashville, and the address in surgery by Dr. Lewis S. McMurtry, of Louisville. The programme gives the titles of sixty papers in addition.

The University of Pennsylvania and the Pennsylvania State Medical Examination.—We are informed that of one hundred and forty-three students from the University of Pennsylvania examined by the State board of medical examiners of Pennsylvania only one failed, and that the general average of the whole number was eighty-six, an average decidedly in advance of that obtained from any other school. The Women's College comes next with twenty-eight candidates and no failures, the general average attained by the students being 81.22. The average all through appears to be high, the lowest being 72.84, and since the University of Pennsylvania furnished about thirty-four per cent. of the entire number of candidates, this makes the university's record all the more noticeable.

THE NEW YORK MEDICAL JOURNAL, SEPTEMBER 23, 1899.

Original Communications.

FRACTURE OF THE LOWER END OF THE RADIUS.

By CARL BECK, M. D.,
NEW YORK.

(Concluded from page 365.)

Treatment.—The first requirement, accurate reduction, may be carried out with little difficulty by moderate extension, the flexed hand being grasped as in a firm handshaking, with downward pressure by the surgeon's thumb, while counter-extension is used on the forearm, which is flexed rectangularly. If this procedure should fail, anæsthesia must be employed.

Fig. 6 shows the extra-articular type in a youth of twenty years (patient presented to the association April 17th) twelve days after the injury. A dorsal and a palmar splint were applied, but no effort had been made to reduce the displacement, which explained the swelling. The latter at last reached such an extent that gangrene of the dorsum of the hand developed under the dorsal splint.

While it is emphasized that thorough reposition is the *conditio sine qua non*, it should never be attempted by other than gentle manipulations. In recent cases this will easily be accomplished. In old cases considerable difficulties will arise. In Case VI complete reduction was effected, as shown by Fig. 7, although the displacement had lasted fully twelve days. But a moderate degree of force was used; still it seems to me that while using lateral pressure for the reduction, a small particle of the styloid process of the ulna was severed. In Fig. 6, which was taken before reposition, the styloid process appears intact. As will be shown below, this complication is one of great importance. The patient is not now incommoded by this complication, three months after the injury.

The more difficult thing is to keep the fragments well adjusted in a proper position. This I have always been able to secure by very simple methods. While forced traction is made, a long adaptable wire splint is applied, which reaches at the flexor side of the arm from the tips of the fingers to the elbow. If the direction of the displacement is *upward* (silver-fork shape), a pad of adhesive plaster is attached to the dorsal integument above the fragment. Then a short, narrow splint of wood is placed on the dorsal aspect of the arm, reaching from the metacarpo-phalangeal joint to four inches above the wrist, and is kept pressing down by the application of a gauze bandage.

If the tendency of the displacement is *downward*, the same procedure is carried out in the opposite direction, the wire splint being applied on the dorsal and the wooden splint and pad on the palmar side of the arm.

If the displacement is *sideways*, which is most marked when there is a simultaneous injury of the ulna (Fig. 2, left hand), the immobilization must be carried out on entirely different lines. The adhesive-plaster pad must then be applied laterally to the fragment, two long, narrow wooden splints being used at the same time. One of these splints, being a little broader than the diameter of the bone, begins at the metacarpo-phalangeal joint of the thumb, and the other at the same point of the little finger. Both extend up to the elbow, the same as the long wire splint. If there should be any displacement in the opposite direction, the pad must be applied on the ulnar side. No dorsal splint is used in this variety. After the dressing is finished the skiagram verifies the proper position of the fragments.

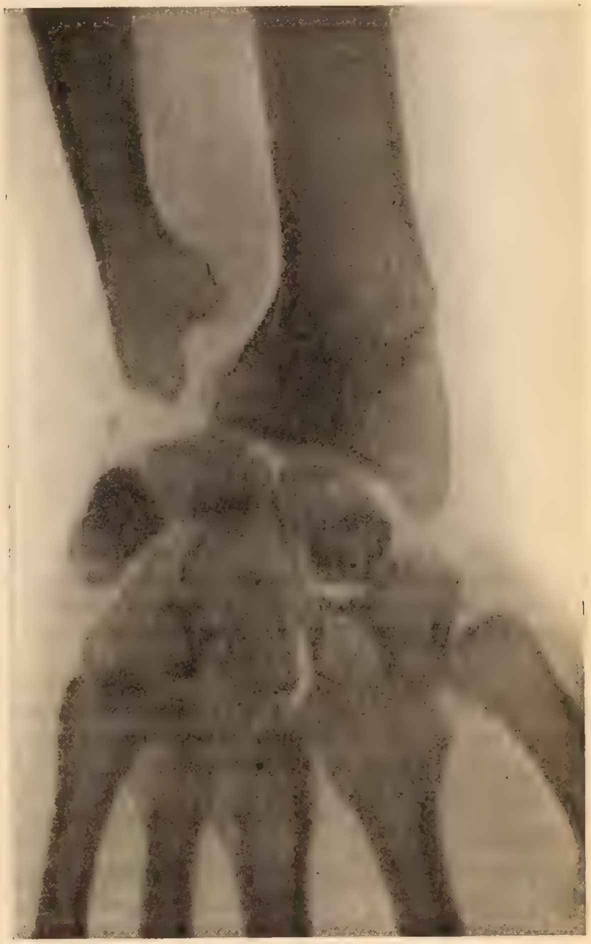

FIG. 7.—Extra-articular fracture after reposition.

If there is much swelling, wet applications may be advantageously used by pouring Burow's solution upon the gauze bandage, the wire splint permitting penetration of the fluid.

If after the lapse of a week agglutination of the fragments is obtained, and no deformity is evident, then the soft tissues must receive consideration. It is only then that short splints are in order. They consist of well-padded pieces of wood extending from the metacarpo-phalangeal joint up to the middle of the forearm. After another week a bracelet, such as is recommended for the treatment of simple fissure (see above), is applied to permit of free action of the fingers. The patient is also told to move his fingers as in playing the piano, and to use the marbles as described in the treatment of fissure.

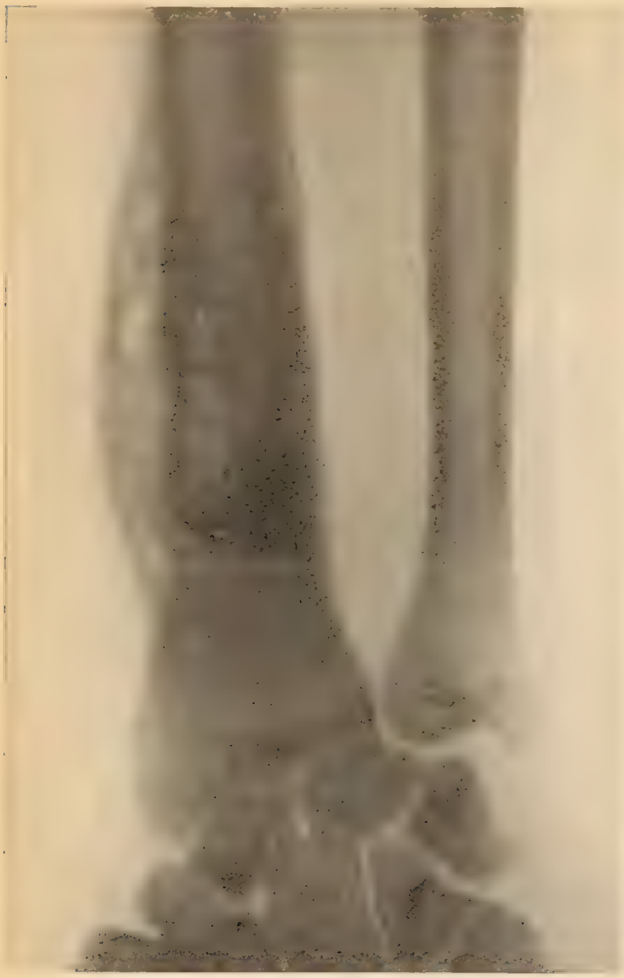

FIG. 8.—Excessive callus formation after extra-articular fracture in a lad of thirteen years.

After the third week massage treatment is indicated, active as well as passive motion of the joint being employed at the same time. The results of these simple methods are just as good as, if not better than, those of the numerous most complicated apparatus advised for the same purpose. If all the points of these manipulations, dictated by simple common sense, are observed, surgical clinics will no longer furnish so much testimony of deformities and functional impairment following fracture of the lower end of the radius.

In cases of severe functional disturbance of the joint, produced by agglutination of the fragments in a displaced position, I have succeeded repeatedly in reducing the deformity by osteotomy. In every case the functional result has been very satisfactory. Osteotomy is also indicated in cases of extreme callus formation, such as is illustrated by Fig. 8.

Operative interference may also be required if pronation and supination are arrested on account of callus formation between radius and ulna, as is illustrated by Fig. 9, which was taken ten weeks after simultaneous fracture of radius and ulna had occurred.

In Fig. 10 the excessive callus formation due to a non-displaced fracture in a boy of fifteen years was not followed by any functional disturbance, wherefore removal of the excessive bone tissue was not advised. In this case it had been pronounced that vicious union was present. But the patient could be convinced by his skiagram that he had been treated correctly. The medicolegal importance of the possession of such a "document" is evident.

Fractures of the lower end of the radius, combined with fissure or fracture of the head of the ulna, are frequent (Fig. 11). In my cases this combination represents twenty-three per cent. of all cases of fracture of the lower end of the radius.

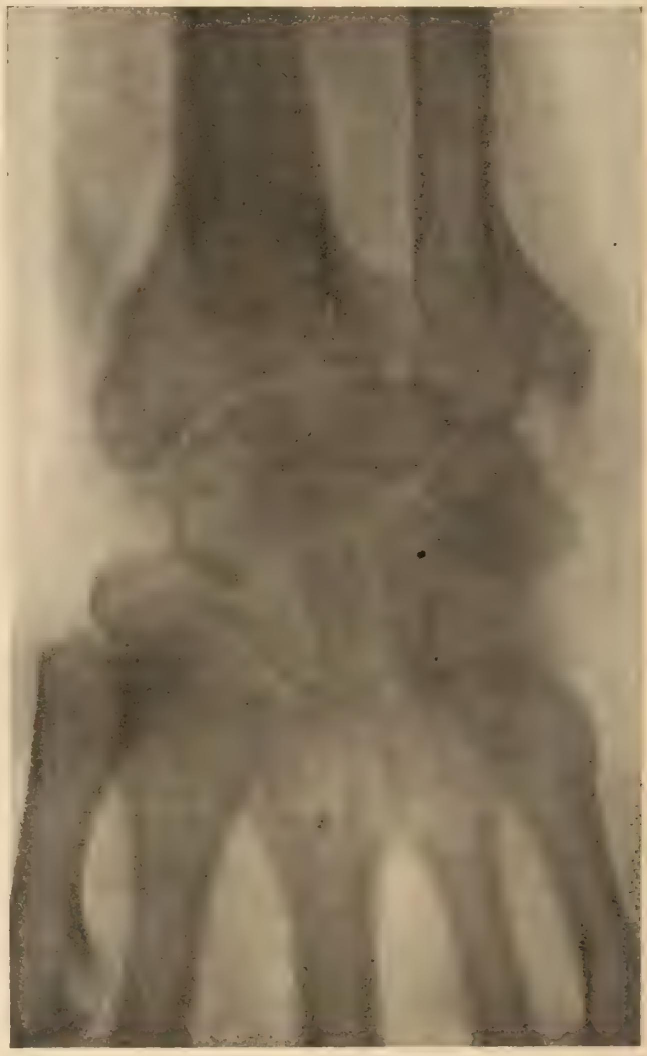

FIG. 9.—Callus formation between radius and ulna, interfering with pronation and supination.

In case of fissure of the ulna no displacement is present, and the symptoms are essentially the same as those of the complete fractures described above.

In the much rarer event of complete fracture of the ulna the symptoms of lateral displacement are well pronounced. This combination is the main cause of the impairment of supination and pronation.

The treatment is practically the same as that of complete fracture with lateral displacement, lateral pressure, by attaching an adhesive-plaster pad over the ulnar fragment after reduction, being well kept up. In case of displacement a plaster-of-Paris dressing is preferable for the first ten days.

Fracture of the lower end of the radius, combined with fracture of the styloid process of the ulna, is extremely frequent (Fig. 12). In the writer's cases this combination represents forty-two per cent. of all cases of fracture of the lower end of the radius. In this variety the radio-ulnar joint is always more or less involved (compare Fig. 2).

It is evident that it is more difficult to keep the fragments in good apposition in this type. It is therefore advisable to apply a plaster-of-Paris dressing while traction is used, the hand being firmly grasped by an assistant and kept in slight ulnar flexion. The Röntgen rays permeating the plaster dressing, the proper position of the fragments can be verified by them. If apposition appears to be imperfect, there is a chance for immediate correction and certification of its proper execution. It is true that the skiagram taken through the plaster dressing is not so distinct, but, as Fig. 13 shows, still distinct enough to indicate the position of the fragments. In obstinate cases resection of the process is sometimes indicated.

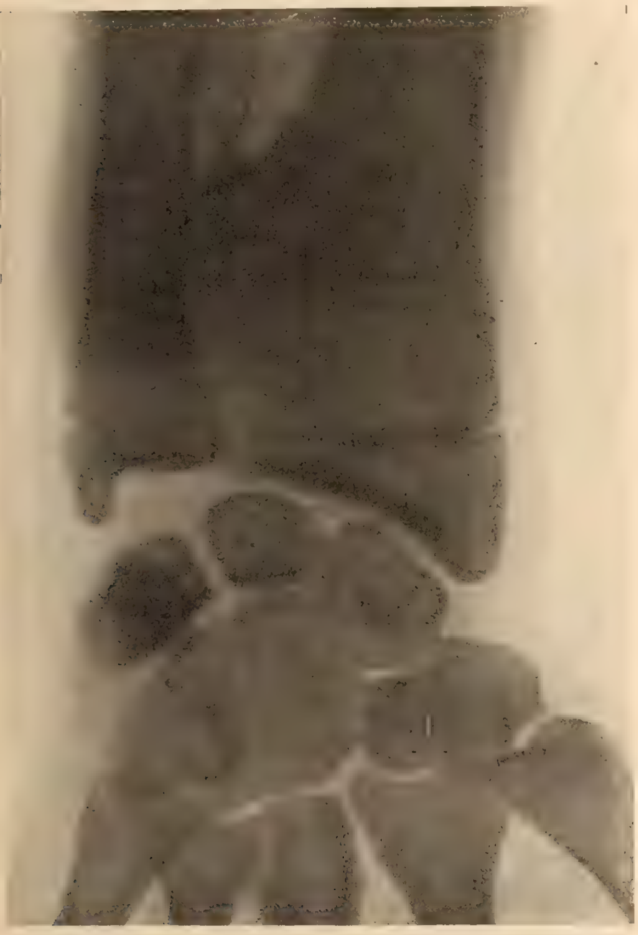

FIG. 10.—Excessive callus formation after extra-articular fracture of lower end of radius.

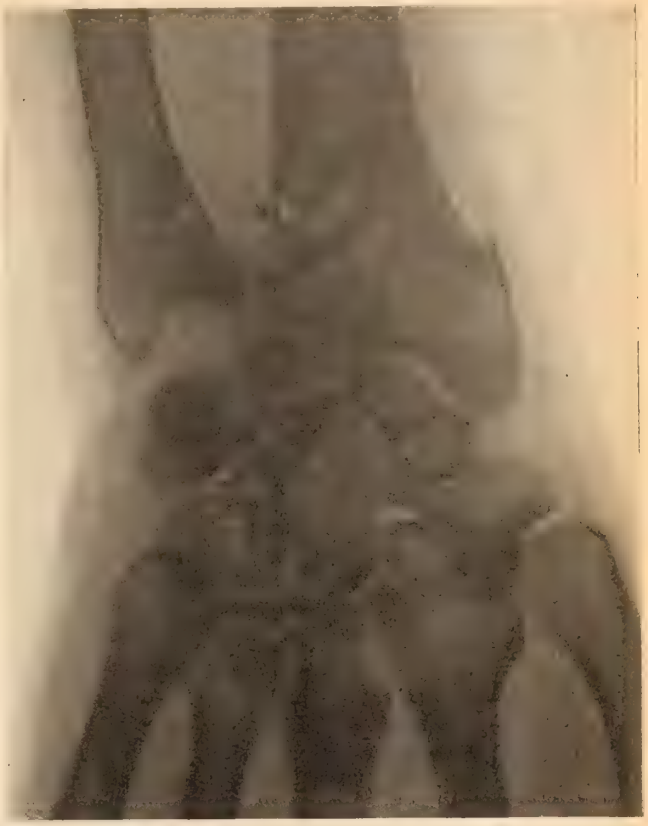

FIG. 11.—Extra-articular fracture of lower end of radius, showing slight outward displacement of lower fragment and comminution on the ulnar side, combined with irregular transverse fissure of the head of the ulna, half an inch above the epiphysis.

In the majority of cases observed by me the process has been entirely severed. It seems that osseous union never takes place again. (Compare Fig. 14, an illustration of the case of a lady, seventy-one years old, who had sustained a fracture of the lower end of the left radius three years before and one of the right radius two years before. The process appears to be entirely isolated on the left side. Still, there is but insignificant deformity.)

Appendix.—The functional impairment following fracture of the lower end of the radius, especially the formation of adhesions, has led a number of surgeons to enunciate this dogma: "The most important part in the treatment of fracture of the lower end of the radius is the treatment of the soft tissues." Nothing is more adverse to common sense than this dangerous axiom, which is based upon correct observation, but incorrect interpretation.

Galen says that the bones give the human body form, erectness, and firmness. It is evident that an injury of the bones impairs these three fundamental factors.

The most important step toward repair must thus be taken in the foundations rather than in the superimposed structure. And in no part of the body is this principle more conspicuously illustrated than in the wrist, which is so preeminently governed by the lower end of the radius. The wrist directs the hand, this wonderful and important mechanism, without which the whole extremity would be a nearly useless appendage. In fact, the hand is, more than any other portion of the body, the instrument with which mankind has reached its superiority; and from it the most wonderful and delicate art, surgery, derives its name.

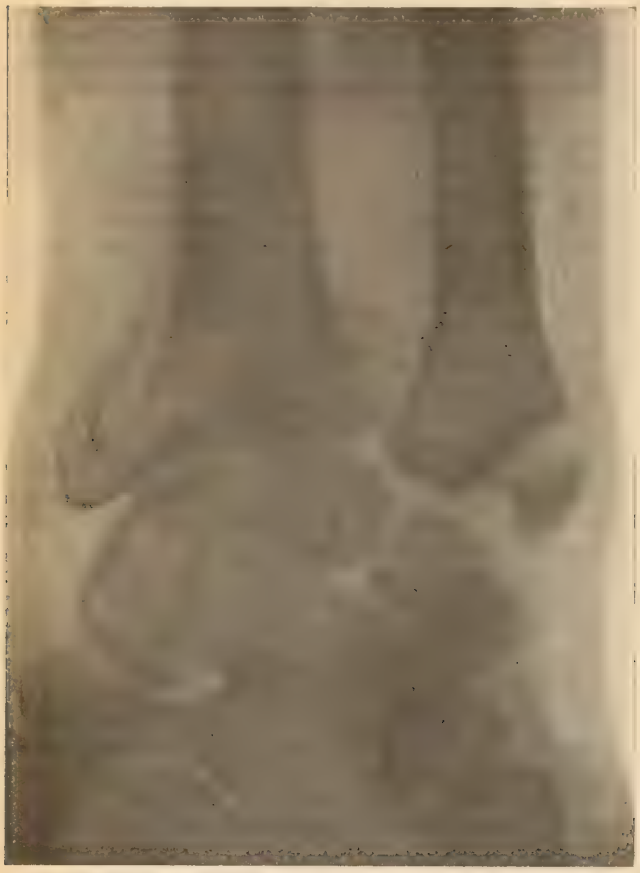

FIG. 12.—Fracture of the lower end of the radius, combined with fracture of the styloid process of the ulna, in a man of thirty-eight years.

If the lower end of the radius is displaced, undue pressure must necessarily be made upon the soft tissues; non-reduction means persistence of pressure, the fatal consequences of which are only too well known. Reduction means the relief of pressure. Of course the act of injury can not be undone by the mere cessation of pressure. But the influence of the injury on the soft tissues, if the pressure lasts only a short time, is insignificant; there is then but little inflammation and consequently little exudation, and therefore repair is easy. This means that the premises of adhesion formation are wanting. And clinical observation shows that, if there was perfect reposition, the wrist as well as the sheaths will be found free, even if the wrist has been immobilized longer than necessary.

Thus it can be seen that, as in the treatment of all fractures, there are two simple rules—viz.: first reduce the displaced fragment, and then keep it there.

The *sine qua non* for the proper execution of these three points is an *exact diagnosis.* In many cases, it is true, the presence of a fracture may be recognized even by simple inspection. And if a false point of motion, crepitus, and displacement are present, the proof of the presence of a fracture is established beyond doubt. But with all their experience and knowledge, the greatest surgical masters of all centuries have often failed to diagnosticate fractures. The courts can tell endless histories of grave errors to the detriment of poor patients and none the less of poor doctors.

Like witchcraft appeared the discovery of Wilhelm Conrad Röntgen, which did away with these repeated miseries. Now there are no more fractures the presence of which can not be established beyond doubt. But much more has been given to us by the miraculous rays: A glance with the fluoroscope furnishes not only a true picture of the special type of the fracture, but one of the situation, the shape, and the number of fragments (compare Fig. 11), and their correlation can be distinctly ascertained, so that anæsthesia, which in many such cases is not at all indifferent for the pa-

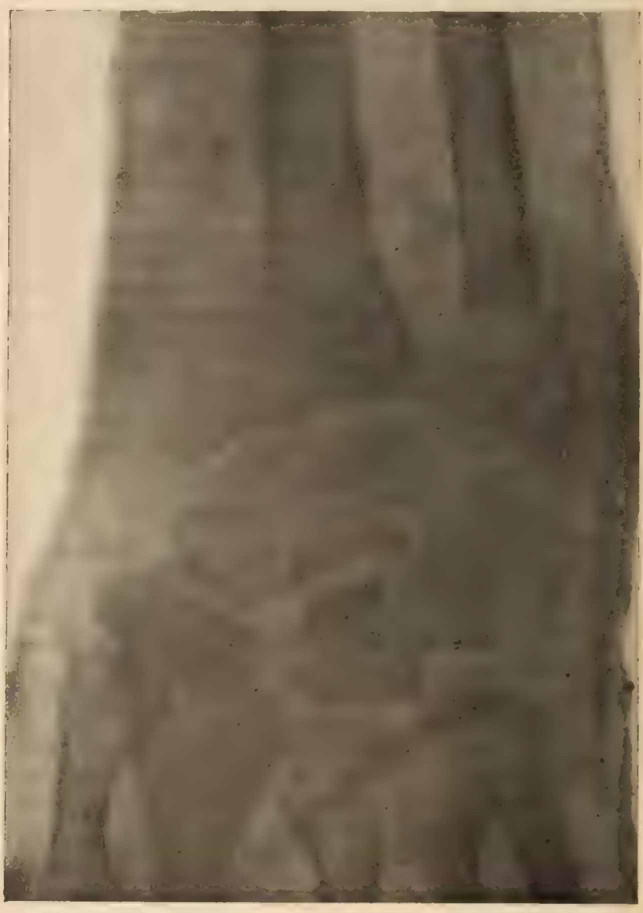

FIG. 13.—Fracture of lower end of radius, combined with fracture of the styloid process of the ulna, skiagraphed through plaster-of-Paris dressing after reposition.

tient's physical condition, is no longer required for diagnostic purposes. It is self-evident that thus the advent of the Röntgen rays means no less than a revolution in the understanding of fractures.

It is to be deplored that several circumstances are adverse to their general adoption by the profession. The great financial sacrifice and the trouble which taxes the surgeon's patience, often to a great extent, are inimical to their popularity. A great deal is also heard lately of the various dangers of the Röntgen rays.

A few weeks ago the dangers of the Röntgen rays were commented on in a most interesting editorial in this journal. But I venture to say that the danger of using the rays nowadays is much less than the danger of *not* using them. That the Röntgen rays may cause inconvenience in the hands of the expert, and danger in the hands of the ignorant, can not be disputed. But it is the same with all other inventions; it is so with anæsthesia, asepsis, and most drugs. The often-discussed danger of originating dermatitis is practically nil, since the time of exposure is so much shorter and usually does not need to exceed three minutes; most hands can be skiagraphed in one minute. The danger from officious friends, inconsiderate or malicious *confrères,* and shyster lawyers, as stated in the editorial, will not be disputed. But this danger is ubiquitous and by no means represents a characteristic emblem of a Röntgen-ray case.

I am so overwhelmed with the conviction of my own liability to err without the help of the rays that I have adopted the principle of declining to treat any fracture unless I have been given the privilege of taking a skiagram first. I certainly do not regard such skiagraphic document as my "enemy," but as my decided "ally." Whatever may happen afterward, there is a proof for the surgeon which can be shaken by nobody thereafter.

These words, quoted in the editorial, "in connection with the mistakes, failures, or imperfect results turned out by brother practitioners, it is our duty to be extremely charitable, and never to pass a hasty adverse judgment upon their handiwork; for it is just possible that when the case was first seen it was surrounded with difficulties of which at that time we can know nothing, and that the care and skill bestowed on it were worthy of a better issue," can not be repeated too often.

There is none better able to speak of his own errors than the surgeon who sees his errors demonstrated over and over again by the rays. It is somewhat like the diagnosis of a complicated abdominal lesion *before* and *after* laparotomy. So he who has the largest and most positive experience will always be most charitable. But, while it is understood that it is the imperative duty of all of us, whether more or less experienced, to cover our brother's mistakes before a pitiless and thoughtless public, we should not hesitate to expose our mistakes among ourselves, so that all of us may be able to recognize our errors. Then we shall not so much need to appeal to charity. And he who guards his brother from errors does more than the one who only pardons him.

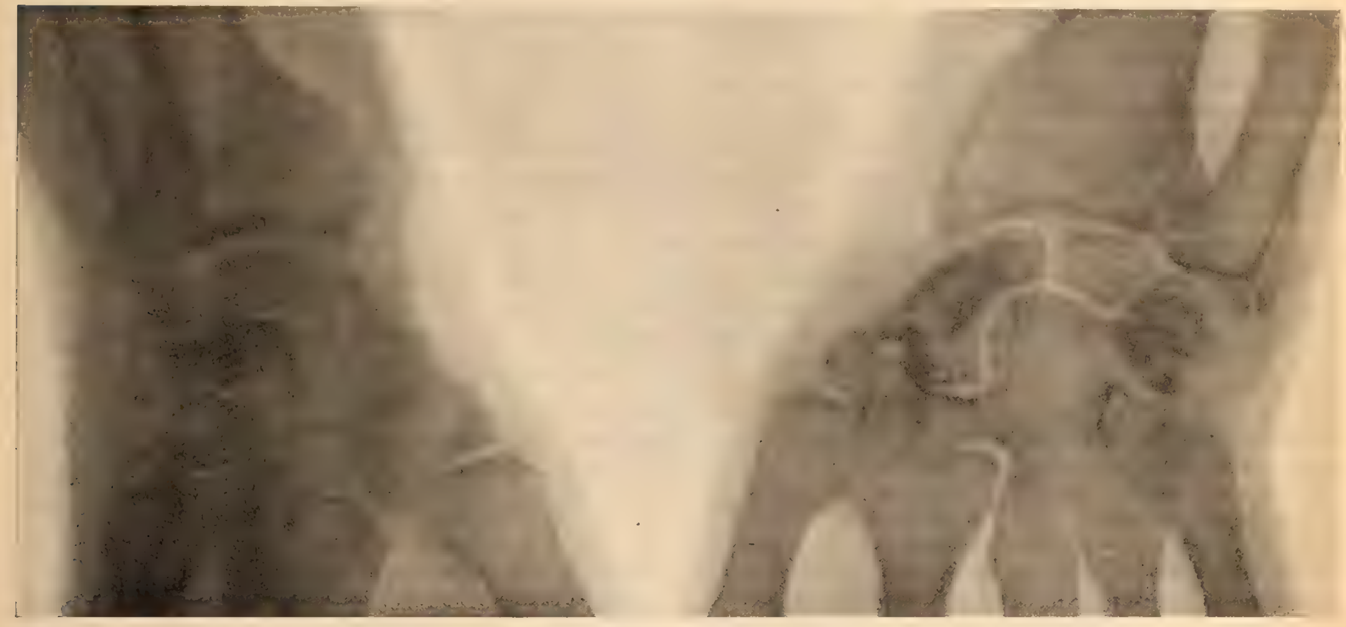
Left. Right.

FIG. 14.—Fracture of the lower ends of both radii in a lady of seventy-one years. The left sustained three years ago; styloid process of ulna entirely isolated. The right sustained two years ago.

Phenacetine in Acute Endocarditis.—Dr. J. Howe Adams (*Medical Times,* September) records the case of a woman suffering from acute endocarditis with severe pain, chills, high temperature, and the usual physical signs well marked. She was successfully treated with phenacetine in doses of a grain and a quarter. The frequency of administration is not stated.

THE PHYSIOLOGICAL ACTION AND THERAPEUTICS OF GUAIAMAR,

A DERIVATIVE OF GUAIACOL.

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UNDOUBTEDLY the greatest advance in therapeutics during the past century has been the discovery and introduction to the medical profession of anæsthetics and antiseptics, and, of the two, probably the latter agents have been of more real value to mankind than the former. In this one great group of antiseptics, too, may be found some of our most valued antipyretics and hypnotics. The phenol group no doubt occupies the foremost position, for in it are found many invaluable remedies.

Phenol and its derivatives are antizymotics, antiseptics, antipyretics, disinfectants, and deodorants. Some of them belong to all these classes, but generally one or other action predominates. The spread of infectious diseases has been greatly lessened by drugs of this character, while, as is well known, the danger attending surgical operations has been diminished by their use to an almost incredible extent. This, of course, implies the local application of these remedies, but many of them are of equal value as internal antiseptics. As the principal object of this paper is to discuss internal antiseptics, particularly members of the phenol group, and more especially creosote and its derivatives, I will briefly discuss first the action of creosote itself.

Creosote is a mixture of phenols, chiefly guaiacol and cresol, obtained during the distillation of wood tar, preferably that of beech. Externally it is a local anæsthetic, and, applied in full strength to animal tissues, acts as a caustic, but does not produce vesication. In weaker solutions it produces a burning and reddening of the skin. It acts more severely upon mucous membranes. It coagulates albumin and therefore its caustic action is limited. It is an antiseptic, disinfectant, deodorant, and parasiticide.

Internally, in small doses, it is cooling and sedative to the stomach, but in large or poisonous doses it is a powerful gastro-intestinal irritant. Poisonous doses also depress the heart and lower arterial tension, and markedly depress the cerebrum and respiration; small or medicinal amounts have no effect upon the circulatory, nervous, or respiratory systems, but tend rather to stimulate than otherwise.

The drug is probably eliminated by the bronchial mucous membrane and by the kidneys as guaiacol sulphate and cresol-potassium sulphate. The creosote preparations and derivatives, of which there are many, differ in some respects in their physiological action from the drug itself. Guaiacol, of which creosote contains from sixty to ninety per cent., is not caustic when applied in full strength. Guaiacol possesses marked antipyretic, diaphoretic, and diuretic properties. It is readily absorbed through the unbroken skin and rapidly reduces febrile temperature when applied in this manner. It is excreted by the sweat, saliva, and urine, but is only slightly thrown out by the exhaled air, though small amounts of the drug have been found in the lung tissue. As it is eliminated as a salt of ethyl-sulphuric acid, it must combine with albuminous bodies in the blood and chiefly through the sulphur present in the albumin molecules. It can be found in the urine fifteen minutes after administration or external application, in the form of a substance giving the reaction of phenol. It is more agreeable to the stomach than creosote and occasionally improves the appetite, though to many patients it is very disagreeable and acts as an irritant.

Though the above-named drugs are antiseptic when brought into contact with germs, they form, however, non-antiseptic compounds during the process of absorption and are inert so far as their further action on bacteria is concerned. Moreover, Hoelscher has proved that even by very large doses of guaiacol the blood can not be rendered sterile. The toxic albumins, microbic products, however, combine with these drugs in the blood and are probably rendered innocuous, being oxidized and eliminated as above stated as guaiacol sulphate and cresol-potassium sulphate. Yet, owing to their corrosive and irritant action, chemists have endeavored to effect such combinations of creosote and guaiacol as to modify some of their disagreeable and objectionable actions without impairing their antiseptic properties. Their efforts usually have been in the line of combining the phenols with certain organic acids, bismuth, carbonic acid, etc. The result has been that in the majority of cases insoluble substances have been formed which are broken up into their respective constituents in the intestines. Many of these compounds are, however, exceedingly valuable medicaments, notably benzosol (guaiacol benzoate), guaiacol carbonate, guaiacol salicylate, etc. In February, 1897, I published an article on benzosol, and have had no reason to regret it, since that, as well as the other preparations mentioned above, have proved to be valuable remedial agents.

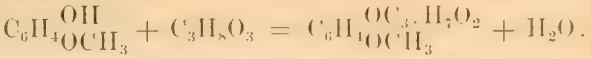
Both benzosol and guaiacol carbonate are decomposed only in the intestinal canal, where the guaiacol is liberated and exerts its peculiar medicinal effect. The decomposition of these drugs ordinarily is slow, the absorption therefore of the guaiacol being correspondingly tardy and imperfect, a material portion often passing through the bowels without effect.

Starting from crude creosote, steady advancement has been made, and each new product has possessed some advantages over its predecessor by eliminating at least some of the disadvantages of the former derivatives. A knowledge of the action of creosote and guaiacol will show that their uses are necessarily limited, owing to their irritating action. Guaiacol, however, was an advance over creosote and in a measure overcame the objectionable features of the latter, but not to the desired extent. The combination of guaiacol with carbonic and other acid radicles soon followed, and undoubtedly had many advantages over the uncombined guaiacol. As before stated, all these combinations are insoluble in water, and absorption of them is possible only after the substances have been resolved in the intestinal canal into their free constituents. In the same manner salol, which is the phenol salicylic acid ester, has to be decomposed into the free phenol or carbolic acid and free salicylic acid before it can act. This decomposition takes place in the duodenum, but not always and not regularly. Thus it was found that the stomach of a person who had died of cholera contained all the salol which had been administered during the two days preceding death. Retention of such a quantity of a drug is, however, a serious matter, not only because of the fact that its beneficial effects have not been realized, but also from the fact that the sudden decomposition of such large doses may cause poisoning, and thus injure the reputation of the drug.

Dr. Endemann, who is the inventor of the glycerol ethers of phenol-like bodies, reasoned as follows: The methyl and ethyl ethers of phenols showed properties different from the original phenols, due to their greater stability, probably aided by their slight solubility in water. The combinations of phenols with acid radicles were insoluble in water and showed absolutely no action until decomposition had occurred. A more soluble ether, it was thought, should present not only greater facilities for absorption, but, owing to the fact that it is easier to resolve into its constituents, must more nearly preserve the physiological properties of the original phenols. Such he found to be the glycerol ether of phenols. The glycerol ethers are soluble in water, and generally more so than the phenols from which they are derived. The acrid taste of the phenol is missing and is supplanted by a pure bitter; they are therefore easily administered. The inventor has ascertained that they are readily absorbed into the system, not only through the alimentary canal but through the skin, and consequently allow the medication of the body by way of the skin. The phenols preserve thereby many of their physiological properties, and, inasmuch as they do not affect the sound tissue, the dissolution of the glycerol ethers must occur at the place where their action is needed—*i. e.*, at the location of the diseased tissue. This is considered one of the greatest advantages of the glycerol ethers.

In presenting this glycerol ether of guaiacol to the medical profession, the name of *guaiamar* has been adopted.

It is a definite chemical prepared by the reaction taking place between pure guaiacol and anhydrous glycerin, according to the following equation:



$$C_6H_4\begin{matrix}OH\\OCH_3\end{matrix} + C_3H_8O_3 = C_6H_4\begin{matrix}OC_3.H_7O_2\\OCH_3\end{matrix} + H_2O.$$

Guaiamar is a dry, white, crystalline powder, having a melting point at 75° C., soluble in alcohol, chloroform, ether, glycerin, and in about twenty parts of water at ordinary temperature. It is neutral to test paper, nonhygroscopic, and possesses a bitter, aromatic taste. The drug is compatible and may be advantageously administered with quinine, cod-liver oil, malt, hypophosphites, and pepsin.

In a pure state guaiamar has antiseptic properties, but its chief value lies in the liberation of nascent guaiacol, partly in the stomach, but chiefly in the intestinal canal. This decomposition is presumably caused by contact with putrefactive matter, which at the same time induces resorption of one molecule of water, liberating also glycerin, according to the following equation:

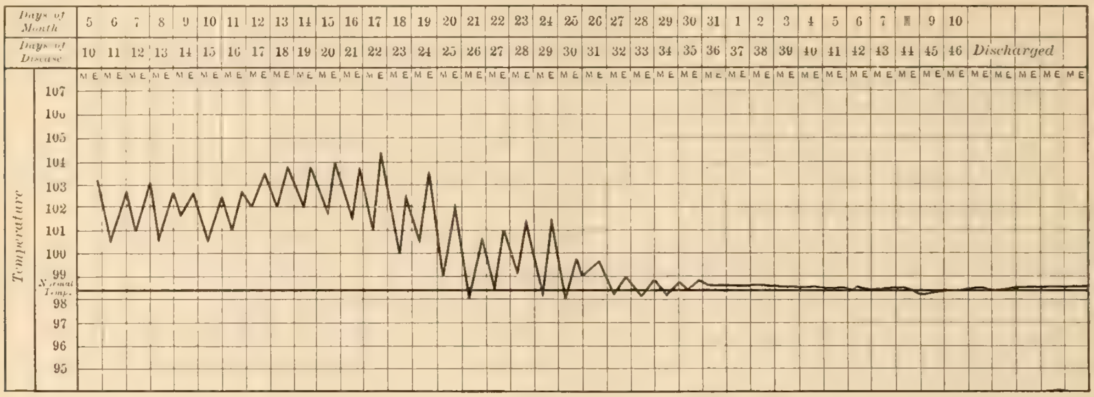
$$\overset{\text{Guaiamar.}}{C_{10}H_{14}O_4} + \overset{\text{Water.}}{H_2O} = \overset{\text{Guaiacol.}}{C_7H_8O_2} + \overset{\text{Glycerin.}}{C_3H_8O_3}.$$

The drug does not interfere with the normal process of digestion, but, on the contrary, has decided tonic action, so that patients suffering from impaired nutrition usually show marked signs of improvement under the administration of guaiamar. The drug may be given internally in doses of from three to fifteen grains; should no irritation of the genito-urinary tract occur, it can safely be given in doses of ten or fifteen grains three times a day.

It is nearly a year since this drug was first brought to my attention by the Mallinckrodt Chemical Works, since which time I have employed the remedy in numerous and varied cases, and the very satisfactory results which have followed its administration in the majority of instances indicating a drug of this character prompt me to state unqualifiedly that we have in guaiamar an antiseptic remedy fully equalling, if not surpassing, in certain particulars, any other member of the phenol group.

During the past year, in private practice and in the Cook County Hospital, I have employed guaiamar in the treatment of twenty cases of typhoid fever exclusive of any other remedy; and while, perhaps, this is too small a number upon which to base an opinion of the value of any particular medicament, I can say that whether due to a fortunate coincidence or not, each one of these cases ran an unusually mild course. It is true, I resorted to the cold-water bath in each instance for the reduction of temperature, but in comparing these patients with others where no therapeutic measure was employed but the cold bath, I am satisfied that those to whom guaiamar was given did not have so high a temperature, while in every way the general symptoms were less severe. In none of the twenty cases was there any intestinal hæmorrhage or marked tympanites, and the condition of the nervous and digestive systems was, for the most part, excellent. One noticeable feature in nearly every case was the inodorous condition of the stools after guaiamar had been administered for two or three days.

I herewith append three histories and temperature charts of patients who were treated with guaiamar, cold sponging being employed whenever the temperature reached 102.5° F. Some of the twenty cases did better than these, while some did not so well. I have aimed to select what I consider the average case:



Case I.

Case I.—D. J. F.; nativity, United States; aged thirty-three years; occupation, laborer; civil state, married.

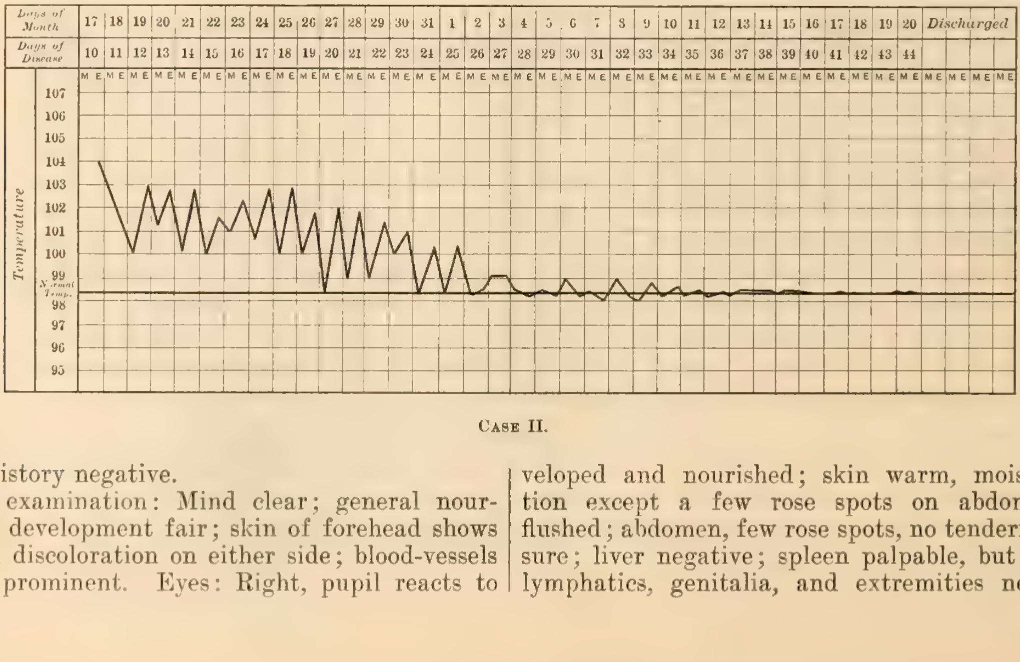
Uranalysis: Color, light amber; reaction, acid; specific gravity, 1.020; no albumin, no sugar, no casts.

Present illness began five days ago with pain all over body; had been suffering from a "cold" with cough, discharge from nose, etc.; expectorates a yellowish muco-pus.

No chill, no pain in chest or abdomen, no epistaxis. Appetite good, no gastric disturbance; bowels constipated—has had to use cathartics each night since sickness began. Has been confined to bed four days.

Previous illness: Diphtheria, scarlet fever, etc., when young; had gonorrhœa four years ago.

Uses a considerable quantity of tobacco, cigarettes, and drinks moderately of beer.



Case II.

Family history negative.

Physical examination: Mind clear; general nourishment and development fair; skin of forehead shows brownish-red discoloration on either side; blood-vessels of forehead prominent. Eyes: Right, pupil reacts to light and accommodation; left, pupil obscured by opacity, which appears to be on the lens. Tongue red and swollen; slight yellowish coating on left side. Chest, development and expansion good; expansion detected by percussion. Lungs negative. Heart negative. Abdomen, no tenderness. Liver and spleen negative. Extremities negative, except absence of one finger on left hand and parts of two fingers on right hand. Pulse accelerated, full, regular, and hard. Arteries sclerotic.

Case II.—R. W.; nativity, American; aged twenty-eight years; occupation, mechanic; civil state, single.

Uranalysis: Color, amber; reaction, acid; specific gravity, 1.028; no albumin, no sugar, no casts, diazo present.

Present illness: Was taken sick eight days ago; at that time noticed a soreness beneath the sternum and had a cough, but no expectoration; complains of having felt weak and unfit for work, but outside of this weakness and cough had no special ailment; bowels have been constipated, but was given medicine to move them; had no appetite; says that he has suffered from backache; no tenderness or pain in abdomen.

Previous illness: Had lung fever when six years of age; had several attacks of grippe; had gonorrhœa three or four years ago; uses tobacco and drinks moderately.

Family history negative.

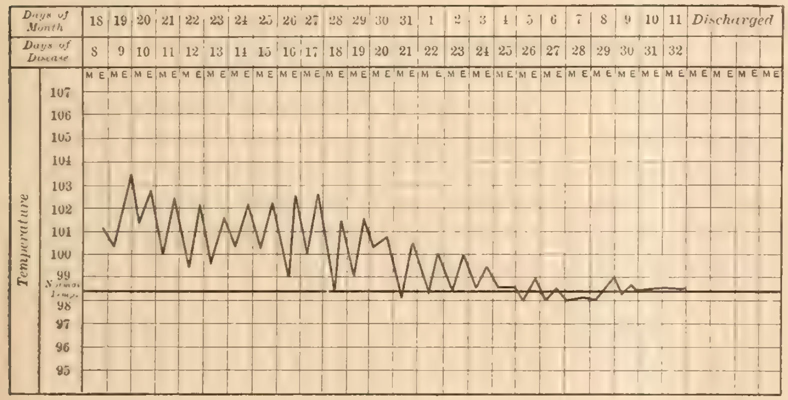
Physical examination: Mind clear, body well developed and nourished; skin warm, moist, no eruption except a few rose spots on abdomen; cheeks flushed; abdomen, few rose spots, no tenderness on pressure; liver negative; spleen palpable, but not tender; lymphatics, genitalia, and extremities negative; patient does not appear to be suffering pain; pupils unequal, right > left, react to light and accommodation; tongue slightly covered over back and centre with moist, whitish fur. Respiratory system: Chest development and expansion good; expansion detected by percussion; breathing natural; palpation, percussion and auscultation negative. Circulatory system: Pulse irregular and rather weak, arteries negative; heart, apex beat seen and heard in fifth, a little to the left of the mammary line; percussion, relative dullness. Upper border, third rib; left border, an inch to the left of the nipple; right border, half an inch to the right of the sternum.

Auscultation: Soft, blowing, systolic murmur heard at apex and transmitted toward axilla; not heard in back; second pulmonic sound accentuated.

Case III.—W. W.; nativity, American; aged fourteen years; occupation, clerk; civil state, single.

Uranalysis: Color, straw; reaction, acid; specific gravity, 1.020; no albumin, no sugar, no casts, diazo reaction.

Present illness: Began to feel badly ten days ago; complained of dizziness and headache at the time; legs and arms ached; appetite good; bowels constipated; continued at work until six days ago, when he went to bed and has been confined there since. His mother states that there has been some tenderness in abdomen, which the child located in the left hypochondriac region. He says there has been borborygmus present for several days. Very light cough; throat is dry and soreness noticed in swallowing; has feeling of tightness in chest, which is more marked at some times than others.



Case III.

Previous illness: Has been a healthy child, having had only whooping-cough and measles.

Family history negative.

Physical examination: Mind clear; development and nutrition fair; cheeks flushed; does not appear to be suffering pain. Skin: No eruption except on abdomen, where there are two or three rose spots. Eyes: Pupils react to light and accommodation. Tongue coated with heavy, brownish fur. Respiratory system: Chest development and expansion fair. Circulatory system: Pulse accelerated, full, and bounding (dicrotic); arteries and heart negative. Abdomen: Slight tenderness on pressure in right iliac fossa; no distention; two or three rose spots visible. Liver negative; spleen palpable; but not tender. Lymphatics, genitalia, and extremities negative.

I have tried guaiamar in acute articular rheumatism, but always in conjunction with the salicylates, so that I am unable to state positively whether the drug possesses any specific action in this disease. Of one thing, however, I am thoroughly convinced: that an ointment of guaiamar, two drachms to one ounce of lanolin, applied to the affected joints, the joints being incased in cotton and bandaged, greatly lessens the suffering.

The following prescription I have used with marked success in several cases of gonorrhœal arthritis:

℞ Guaiamar .... ʒij;
Unguenti belladonnæ }
Unguenti hydrargyri } āā .... ʒiv.

M. et sig.: Apply freely to affected joint, gently rubbing it in, and cover with cotton and bandage.

Like creosote and certain other of its derivatives, guaiamar is of great value in certain pulmonary diseases. It has proved peculiarly efficacious in my practice in the treatment of chronic bronchitis, bronchiectasis, and bronchorrhœa, and I have found it a valuable expectorant in broncho-pneumonia. It can be relied upon as an efficient stimulant expectorant, and, owing to its powerful antiseptic properties, it serves a useful purpose to correct fœtid expectoration.

I have recently adopted the administration of guaiamar in pneumonia, but at this writing have not tested it on a sufficient number of cases to warrant any comment, though I expect soon to be able to say something definite in regard to its action in this disease.

In the treatment of pulmonary tuberculosis, creosote and its derivatives have probably superseded all other remedies. My experience with guaiamar in the treatment of tuberculosis has been very satisfactory. There is no question in my mind that the drug is specially valuable in the initial stages of the disease, and even in the later stages it exerts a favorable action on the night sweats, cough, and expectoration.

The advantage that guaiamar has over creosote, guaiacol, and other of its derivatives is that, owing to its marked stomachic properties, it stimulates the appetite and digestion and thereby increases weight. In one case of erysipelas of the face I gave the drug internally in five-grain doses, three times a day, and applied the following prescription locally to the affected area:

℞ Guaiamar .... ʒiv;
Glycerini .... ℥j;
Aquæ ....q. s. ad ℥iv.

The patient improved rapidly, and, judging from its effects in this case and the influence that creosote is known to have in septic diseases, I believe that we have in guaiamar a remedy of considerable value in certain septic cases, such as puerperal fever, erysipelas, etc. It would be interesting to know the experience of physicians in the use of guaiamar in these cases.

As a dressing for bedsores, I have found the following prescription extremely beneficial:

℞ Guaiamar } āā .... ʒj.
Balsami Peruviani }
Unguenti zinci oxidi benzoinati...q. s. ad ℥j.

This ointment, or simple guaiamar ointment, sixty grains to one ounce, is equally serviceable in the treatment of indolent and sloughing ulcers burns with excessive suppuration, and phagedenic ulcerations generally. The remedy in these cases may be applied in the form of an ointment in solution, in water, or in alcohol and water. A solution of guaiamar makes an excellent antiseptic wash or gargle for syphilitic lesions. It is unirritating in aqueous solutions, and can be applied to open wounds with beneficial effect.

I have employed the drug considerably for its local antiseptic action, and can unhesitatingly recommend it for all the conditions above mentioned.

In three cases of chronic cystitis I have given guaiamar with good success. It is a powerful genito-urinary antiseptic and prevents the decomposition of the urine. The drug will not, however, counteract the excessive alkalinity of the urine present in many cases of cystitis so quickly as guaiacol benzoate. Moreover, it is more irritating to the genito-urinary tract than benzosol, and, while the action of guaiamar is perhaps not so rapid and decided in cystitis, it is superior to benzosol as an internal remedy in chronic gonorrhœa, blennorrhœa, and gleet. It is well to state, however, that some persons have a peculiar idiosyncrasy in regard to this drug, the remedy occasionally producing a sensation of burning during urination, and quite a good deal of irritation.

In gastro-intestinal disorders guaiamar is an invaluable remedy. Theoretically, a drug to be an ideal intestinal antiseptic must be insoluble, or at least undergo no change, in the stomach; and, if its antiseptic action is desired in the large intestine, it must be nonabsorbable from the small intestine. This opinion as to the insolubility of drugs designed for intestinal antisepsis is certainly erroneous. We are all familiar with the action of corrosive chloride of mercury as an intestinal antiseptic. The drug is freely soluble, yet when given in solution it is doubtful if there is any better remedy in the treatment of chronic diarrhœa. Brandy, which is readily absorbed from the stomach, exerts a decided astringent or constipating action upon the bowels, as is well known by every physician and layman. So, with guaiamar, which, though freely soluble in water, exerts a decided and powerful antiseptic action in the intestines. Its effect in typhoid fever alone proves this fact conclusively. In a perfectly healthy, normal stomach, it is doubtful if guaiamar undergoes any change; yet when there is gastric fermentation as the result of saprophytic bacteria, the fermentation and putrefaction decompose a portion of the guaiamar, liberating guaiacol, checking the development of the microorganisms, and consequently the fermentation and resulting symptoms. The drug, therefore, is both an efficient gastric and intestinal antiseptic.

I have been able to check fermentation in several cases of dilatation of the stomach better with guaiamar than with any other drug I have ever used. The advantage which the drug possesses in disorders of the stomach accompanied by marked fermentation is that, owing to its bitterness, it acts like vegetable bitters.

Not only is guaiamar a powerful antiferment, but it also stimulates peristaltic action and increases the blood supply and consequent absorption. Being an antiferment, it checks both physiological and pathological fermentation. Whereas ordinarily antiseptics as well as vegetable bitters should not be given during the active process of digestion, yet in many disorders it is absolutely imperative to give something to prevent decomposition and fermentation. Of course, in the treatment of these diseases other procedures should be instituted; but it is my intention in this paper only to call the attention of the profession to guaiamar as an antiseptic remedy in various diseases.

Self-intoxication resulting from intestinal indigestion in the majority of cases may be prevented by the free administration of guaiamar.

In the diarrhœas of children and infants, especially the diarrhœas peculiar to the heated term, and produced by bacteria, there is no better drug than guaiamar to prevent decomposition in the intestines. In addition to cathartics and flushing of the bowels, I invariably prescribe some intestinal antiseptic in cases of acute dyspeptic diarrhœa, and since my attention has been called to guaiamar I have employed it in a number of cases of this character with unexpected and most satisfactory results.

In calling the attention of the profession to this valuable remedy, I have recorded only my personal experience with the drug in private and hospital practice, which had been so auspicious that I can conscientiously and without reserve recommend guaiamar as a remedy possessing a wide range of usefulness, probably surpassing any of the other derivatives of guaiacol.

I fully realize the responsibility I assume in so emphatic an indorsement of guaiamar. Physicians who may have been induced to prescribe benzosol and kryofine from my recommendation of them during the past two years I am sure have had no cause to regret it, nor do I believe that any physician who will faithfully give guaiamar a fair trial in cases which seem to call for a drug of this character will be disappointed, but, on the contrary, will feel that an exceptionally valuable drug has been added to materia medica.

THE COMPULSORY REPORTING OF TUBERCULOSIS.

By S. A. KNOPF, M. D.

The prosecution of Dr. Ernest L. Shurly, of Detroit, for failing to report a case of tuberculosis, and the intention of bringing the matter before the supreme court in order that a test case may be tried, has brought this difficult and delicate matter anew before the medical profession and the laity. That such a controversy could ever be productive of any good, or raise the esteem which the laity should have for the medical profession and the boards of health, I doubt very much. On the contrary, I am convinced that the cause of solving the tuberculosis problem through judicious prophylactic measures must suffer thereby to an alarming degree.

I have in previous writings, and also in my recent book on tuberculosis, briefly stated my views on this subject; but at the last year's meeting of the State and Provincial Boards of Health of North America, which was held in Detroit, the very city where this controversy is now going on, compulsory reporting of tuberculosis was discussed at length. In view of the importance of this question to the general profession, and I may also add, in the hope that my feeble efforts may aid to bring about a peaceable solution of this vital problem, I venture to reproduce here textually what I said then, which represented what in my somewhat extensive experience with pulmonary invalids seemed to me the proper course to pursue.

I copy the following from the stenographic report of the proceedings of the thirteenth annual meeting of the Conference of State and Municipal Boards of Health of North America:

"When I was younger and less experienced I was in favor of a measure making the reporting of pulmonary tuberculosis obligatory on the part of the general practitioner, on the same ground that he should report cases of small-pox, yellow fever, diphtheria, etc. Riper experience has changed my opinion in this respect. My reasons for this are as follows:

"1. Pulmonary tuberculosis is not a contagious disease, but only communicable; the contact *per se* of a consumptive individual does not transmit the disease.

"2. The scrupulous care and destruction of tuberculous expectoration and other secretions suffices to do away with all danger of infection and transmission.

"3. Pulmonary tuberculosis is a chronic disease, lasting often for years, and once reporting it at a given time, and even the one and usually only visit on the part of a sanitary inspector, can have no lasting effect in the prevention of tuberculosis.

"4. The tuberculous patient who is likely to propagate his disease in the most extensive and dangerous way is not the consumptive unable to move about, and confined to one or a few rooms, but the relatively well tuberculous individual who, though expectorating daily millions of bacilli, is often still able to attend to his occupations. Such a person, even when his case has been reported to the board of health, and when he has been visited once by the sanitary inspector, can change his residence, and none of his neighbors will have an idea of the danger they are in if the newcomer is unscrupulous with his expectoration.

"5. While some boards of health refrain from sending a sanitary inspector when this is expressly stated as undesired in the family physician's report, some boards maintain that it should be done in all cases. Only the physician, who in many cases is not only the medical adviser but also the counselor and intimate friend of the family, will know that circumstances arise where the making public of the existence of a tuberculous disease in a family would mean disaster.

"What, then, would remain to be done by the sanitary authorities in regard to this matter?

"In the interest of demographical science, and in the hope of discovery of some of the underlying causes when the disease is seemingly confined to certain districts, all cases of tuberculosis should be reported. The reporting physician should receive printed measures how to insure a thorough prophylaxis, and also an offer that, if desirable, the sanitary inspector would visit the patient for the verbal instruction. It should be left to the discretion of the physician when and how often a disinfection of the patient's apartments during the course of his disease should take place. The disinfection of an apartment in which a consumptive person has died must, however, be enforced by law, and the physician should be held responsible that the authorities are notified of such a death. A disinfection should also be obligatory in case a room is vacated by a consumptive person; this should be especially enforced in the case of hotels, boarding houses, and health resorts. There should be no charge for disinfecting for the poor.

"One of the vital duties of the board of health should be to inspect regularly all institutions which admit cases of pulmonary tuberculosis for treatment and care, and to insist upon a systematic carrying out of all the necessary precautions concerning prophylaxis. Only one who has visited, as I have done, many of the so-called 'homes' or hospitals for consumptives, some even sailing under the name of sanatorium, where there is often not even a visiting, much less a house physician, can form an idea of the danger such an institution is to the community. All the hygienic and prophylactic measures, which in an assembly of consumptives require a strong will and the thorough medical knowledge of one especially trained for this task, are left in the hands of a gentle priest, minister, sister superior, or matron."

This is what I said on the 10th of August, 1898. To judge from the manner in which these remarks were greeted at the time, I believe that my opinion was then at least shared by a large number of the health officers present. In my address on State and Municipal Care of Consumptives, which I had the honor to deliver before that distinguished body of sanitarians on the same occasion, I pleaded for a thorough cooperation of the general profession and the health authorities, without which the effectual combat against tuberculosis is an impossibility.

I renew this plea to-day with all the more earnestness since we seem to have advanced little in this matter. Dr. Mulheron goes too far if he calls the compulsory reporting of tuberculosis a "foolish fad of some theorists."* The communicability of pulmonary tuberculosis through dried, carelessly deposited sputum, and also in a measure through the expulsion of particles of saliva during dry cough or while speaking, is a fact no longer to be disputed. But the way in which some health boards proceed does not seem to me the best to induce the general practitioner to cooperate with them.

Pulmonary tuberculosis is a highly communicable disease, there is no doubt about it. The only question is, should this chronic communicable disease, lasting often for years, be classed with acute infectious diseases, such as variola, diphtheria, yellow fever, etc., and is it of interest and utility to the public welfare to compel the profession to report tuberculosis and give the health department the right to interfere?

In answer to this question I may, with the permission of the editor of the *New York Medical Journal*, copy a sentence contained in an editorial on the subject in the number of September 2d: "Ever since some of the health boards began to insist that physicians should report their cases of tuberculous disease there has been, besides resentment on the part of practitioners, the feeling that, on the whole, such reports would do more harm than good, unless great tact was employed."

To instill in the hundreds of medical inspectors needed to visit all the cases of pulmonary tuberculosis in a large city the great amount of tact which would be necessary to deal, independently of the attending physician, with the afflicted friends and relatives and also the patient himself, seems to me a task beyond the power of even the best and wisest director of any health department.

But in view of the uselessness of reporting cases in many instances, the difficulty in having it done with tact where it might do some good, the annoyance, and here I agree with Dr. Mulheron, *the worlds of injustice and harm it may do to the perfectly healthy relatives of the patient*, and last, but not least, in view of the well-nigh impossible task of reporting all cases of tuberculosis, since perhaps one sixth of us are tuberculous in one form or another, let us by all means leave the prophylactic measures to be instituted in the hands of the medical practitioners, but especially in the hands of the family physician. Let the boards of health supply all physicians at regular intervals, or upon demand, with instructions how best to carry on a thorough prophylaxis; let all boards offer to the physicians a free bacteriological examination, a gratuitous disinfection of the patients' dwellings, if they belong to the poorer classes; let the boards distribute, gratuitously, or for a nominal price, pocket spittoons to dispensaries, hospitals, and all tuberculous patients who may apply for them; and let the inspectors visit regularly sanatoria, hospitals, asylums, boarding houses, health resorts, and all places where tuberculous patients may congregate, and see that rigorous prophylactic measures are carried out.

Should there ever be a refractory patient who absolutely refuses to comply with the instructions concerning the expectoration, every conscientious physician would consider it a duty to report such a case as dangerous and to demand isolation.

All physicians are the guardians of health, but especially so is the family physician. Let the health authorities and the general practitioner work in unison; let us create societies for the prevention of tuberculosis, and thus let us help in educating the masses. Let us ourselves be willing to learn from the experts in the health departments; let us study their circulars; let us do all we can in reporting promptly cases of acute infectious and contagious diseases. But, on the other hand, let the health departments content themselves with receiving the report that at such and such a place a tuberculous case exists. And in acknowledging a report let the department send, if necessary, special instructions to the doctor, besides such general circulars as it is accustomed to deposit at the patient's dwelling. The attending physician will best know in whose hands they are to be placed in order to do the most good. Such circulars, for example, as those issued in the city of New York have done a great deal of good. Their usefulness will be increased when they reach the patient through the attending physician, who may add some verbal instructions as to their especial importance in the case in hand. Let the health department trust in this matter the intelligence of the American physician. The fair name of medical science must suffer in the eyes of the public by this perpetual warfare. Let us end it.

16 West Ninety-fifth Street.

EXHIBITION OF A CASE OF STAMMERING, WITH DEMONSTRATION OF THE METHODS EMPLOYED IN TREATMENT.*

By G. HUDSON MAKUEN, M. D.,
PHILADELPHIA.

The patient, A. A., referred to me by Dr. Swithin Chandler, of Wilmington, Delaware, is an American, twenty-nine years of age, a college graduate, and a contracting engineer by profession. He has stammered with varying severity since childhood, and he has noticed but little if any improvement during the last few years. His general health is fairly good, although, as you see, he is of the neurasthenic type. He had no acute infectious disease prior to the beginning of his trouble, and he did not have a fright or receive an injury of which he has any recollection. His hearing is good, and there is only a slight ocular irregularity. He had some catarrhal condition of the nose and throat, with small adhesions between the tonsils and palatal folds. There is no history of parental consanguinity, and there is in the family no consumption, insanity, idiocy, deaf-mutism, or other nervous affection.

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* *Detroit Free Press* and *New York Medical Journal*.

* Read before the American Laryngological Association at its twenty-first annual congress.

The chief characteristic of his defect was a spasmodic contraction of the muscles of the soft palate and tongue, resulting in sudden closures, during attempts at vocalization and articulation, of what I have called the posterior palato-lingual chink. These spasmodic contractions were of variable frequency and duration, and they came at the most unexpected times. They gave the speech a peculiar jerky character and sometimes blocked it entirely. Moreover, the defect was more pronounced in reading than in speaking, and he says that when he stammered most in reading or speaking he stammered also in other things. For instance, there was a kind of mental hesitation, and he sometimes could not think connectedly. The affection would seem to be a *neurosis* and to bear a close resemblance to the diseases known as hysteria and chorea. The location of the neurosis, if we may so name it, varies in different individuals, and therefore it can be determined only by a close study of each individual case, of the kind of stammering presented, and its external manifestations in the peripheral organs of speech. Whatever may be the location of the neurosis, however, it is truth to say that no part of the nervous system employed in the use of speech and language can be entirely exempt from its influence; and to a lesser degree, perhaps, it affects the general nervous system.

The question of ætiology in this case is an interesting one. We have no history of stammering ancestors, of association with others who stammered, or of nervous shock as the result of fright, injury, or the infectious diseases of childhood. In fact, there seems to have been no incident in the early life of the patient or in the life of his ancestors to which we can trace the origin of the affection. It began with the inception of the development of speech and under no apparent extraordinary conditions of environment. The child was either born with a neurosis of the motor speech tracts in the central nervous system, predisposing him to the development of the affection, or he must have acquired it between the time of birth and the beginning of the formative speech period. The theory that this neurosis was congenital is strengthened by the fact that a younger brother was saved from being a stammerer only by the most careful management. We may suppose, therefore, that both were born with a predisposition to stammer, and that this predisposition may have been transmitted by inheritance through several generations. In substantiation of this theory, it is not necessary to elicit a history of stammering ancestors, but only a history of an ancestral tendency to stammer. This history is difficult to get, although there are probably few people who have not experienced at some time or other a more or less well-marked tendency toward hesitation in speech. The disposition to stammer is more general than we suppose, and it is quite possible that more of us would yield to it if our powers of resistance were less strong.

The younger brother was successfully guided over the critical period and thus helped to escape the development of the affection; while our patient, with the same treatment, perhaps, but with less powers of resistance, succumbed to it and was held in its grasp for almost thirty years. He has been set free, but the disposition to stammer still remains, and for him to eradicate it entirely may require years of patient effort.

While the characteristic spasm of stammering was most marked, as I have said, in the posterior palato-lingual chink, the primary neurosis was located in the nerves supplying not the muscles in the region of the pharynx, but the muscles supplying the respiratory organs; and the pharyngeal spasm was secondary or reflex and due to an overflow of nervous energy from the respiratory and vocal mechanisms. A certain amount of breath is always required for the production of voice, and it is only by the accurate control of the breath that the vocal element so essential to speech can be supplied synchronously with the articulatory effort.

There was in the case under discussion what Dr. Wyllie has called a lack of promptitude in the vocal element of speech, and the stammering was the result of an attempt to articulate something which at that particular instant did not exist. It was as if the bow hand of the violinist should suddenly cease to operate simultaneously with the string fingers; and as if the string fingers should try, by increased energy of action, to compensate for the delinquent bowing. This forced and unnatural fingering has its counterpart in the spasmodic action of the articulatory and other muscles of the stammerer. In both cases there is an overflow of energy into the nerves supplying the overacting muscles, and this overflow of nervous energy is the result of an attempt to do the impossible—namely, to discourse music after the bow hand has ceased to work and to articulate voice when no voice is forthcoming. It is the effort to play, in the one instance, and to speak, in the other, that causes this overflow and its resultant spasm. The stammerer is struggling to speak, and the amount of muscular spasm is in proportion to the degree of the struggle.

In normal speech the action of the muscles is entirely automatic, and when, for any reason, one or more of the three mechanisms employed fails to perform its functions, this automatic action becomes impaired, and it is the effort to control the lagging mechanism and to bring its action into harmony with the other mechanisms that constitutes the chief difficulty of the stammerer.

In the case before us the respiratory mechanism was at fault. There was an irregular and spasmodic action of the muscles that control the breath (this could be seen, of course, only by stripping the patient to the waist), and to restore these muscles to their normal action we resorted to what may be called direct nervi-muscle training. The method generally employed has been an indirect one. They both have in view the development and establishment of correct automatic muscle action. The indirect method aims to do this by leading the patient unconsciously, by means of approximately correct speech, to use the muscles properly; while the direct method endeavors to single out the muscles, the action of which is faulty, and then by voluntary exercise of these muscles establish correct action.

The advantage of the latter method over the former is that it tends to develop the nervous as well as the muscular system and to establish a volitional control over the faulty mechanism. The method by indirect muscle training leaves the patient with no sure ground to stand upon. He may be led either by judicious exercises, or even by the tricks of the charlatan, into smooth and untrammeled speech, but the slightest accident may destroy his confidence and cause a return of the trouble. Thus it is that so many relapse after having been apparently cured.

Barring some organic lesion or the development of some new ætiological factor in the case, the patient before you will never stammer again, because he knows how to control that particular mechanism of speech that has hitherto been responsible for all his difficulty. He can use the respiratory mechanism with as much precision and accuracy as he can flex his forearm, and not only so, but he can will to do this. Occasionally we find one who learns to control the various mechanisms of speech, but who can not learn to will to do it at the right time; and unless this volitional faculty can be restored or developed the case is hopeless.

The essential parts of the respiratory mechanism are, first, the bony thorax, or cage, as it has been called, consisting of the ribs on either side, articulating posteriorly with the dorsal vertebræ and anteriorly with the sternum; second, the muscles regulating the size of the thorax; and third, the nerves supplying these muscles.

The muscles may be divided into two sets, according as they elevate or depress the ribs; the action of one set being in direct opposition to that of the other. The levator muscles are inspiratory and the depressor muscles expiratory, and in order that there may be a sufficient and prompt supply of breath to meet the demands of the vocal element in speech, there must be a perfect balance between these two sets of muscles, just as for good vision there must be a perfect balance in the action of the extraocular muscles, and for good voice, in the action of the extralaryngeal muscles.

In the case of our patient there was a decided lack of extrathoracic muscle balance, resulting in an irregular and intermittent breath supply. In other words, the motor power for the running of the vocal machinery of speech was defective; and it was to the mechanism supplying this motor power that our attention was directed. It was the action of the diaphragm that was specially faulty, and the first step in our treatment was an effort to bring this muscle under control of the will. Ordinarily, its action is involuntary and automatic, but a very little effort suffices to render it voluntary, and thus by practice to bring its action into harmony with that of the other important muscles of this mechanism. It must be remembered that the function of the diaphragm in the control of breath for vocal purposes is somewhat different from its function in ordinary breathing. Its slight contraction in normal automatic breathing serves to enlarge the thoracic cavity in a vertical direction, and thus it may be called an inspiratory muscle; but its stronger contraction, in addition to slightly depressing its arches, serves to pull down the ribs to a marked degree, and thus it becomes for voice production one of the chief expiratory muscles.

The downward pressure of the diaphragm upon the viscera is checked by the contraction of the abdominal muscles, and therefore these latter muscles must be trained to oppose the action of the diaphragm, and it is the perfect balance between these two opposing forces that controls the breath supply to the vocal mechanism with so great accuracy. The patient was taught, therefore, to compress the abdominal viscera by means of a voluntary action of the diaphragm and abdominal muscles and to make this compression greater or less according to the strength or intensity of the tone required. Exercises were given also for the voluntary control of both the levator and depressor thoracic muscles independently of voice or breath; that is to say, the patient was taught to pull the ribs alternately up and down by volitional effort; and then the same exercise was practised with the use of the breath, care being taken to use only one set of muscles at a time, the other set being wholly relaxed. For instance, in inhalation, only the up-pulling muscles should be used, because the contraction of the down-pulling muscles at this time would not only interfere with a rapid and full inhalation, but it would also increase unnecessarily the required muscular effort.

The next step was to combine this newly acting mechanism with the vocal mechanism. In this process the inhalation is the same as that described above—that is, it is caused by the contraction of the up-pulling muscles only—but the exhalation, when the vocal element is added, is the result of the combined action of both the up- and down-pulling muscles, and the coordination of these two sets of muscles must be such as to regulate the breath with the greatest nicety as regards both its quantity and its strength.

When the patient was able to control the muscles of the respiratory mechanism in this manner and coordinate it with the vocal mechanism in the production of elementary sounds, he was instructed to carry the same principle into the enunciation of syllables and to use in all his speech what Alexander Melville Bell has called the method of syllabication. By one voluntary impulse for each syllable he was enabled to throw the entire machinery of speech into correct physiological action, and then, by frequent repetitions of this process, the ability to enunciate any syllable was acquired; and as soon as the patient learned by experience that he could do this he was practically cured. It only remained for him to make the entire process easy and natural by persistent practice. As you will see, he has not only overcome his difficulty, but he has at the same time acquired a more effective manner of speech.

1419 Walnut Street.

THE EARLY RECOGNITION OF KIDNEY DISEASE,

ESPECIALLY IN ITS REFERENCE TO LIFE INSURANCE.*

By T. H. ROCKWELL, M. D.

As the presence of albumin in the urine is so closely associated with degenerative changes in the kidneys, let us stop for a moment and consider some of the causes which may produce it. It may be present after excessive muscular exercise, from excessive heat or cold, indiscretions of diet, during adolescence, prolonged mental exertion, from pus or blood gaining access to the genito-urinary tract, from altered conditions of the blood, from a change in the blood pressure in the kidney, or from an inflammation in the organ itself. The question at once arises: "Does a perfectly healthy individual pass albumin?" I think all observers will agree that such is not the case, and that the presence of albumin, while it may not always mean a serious lesion, is sufficient to put us on our guard to determine if possible the true import of it. I shall not attempt to take up the discussion of acute nephritis, but limit myself to the cases which present themselves from day to day of individuals presumably healthy, especially those who present themselves as applicants for life insurance. The mere presence of albumin does not justify us in making a diagnosis of renal inflammation, even when we are satisfied that it comes from the kidney, nor is the quantity any guide to the severity of the lesion. I have frequently observed an immense amount of albumin following excessive muscular exercise, and a few hours later, after resting, not even a faint trace could be discovered.

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* Read before the Society of the Alumni of the City (Charity) Hospital, May 10, 1899.

On the other hand, the most formidable form, interstitial nephritis, may sometimes be far advanced, and some claim may even run its course, without albumin being found.

The two forms of Bright's disease which are most likely to present themselves for early diagnosis are chronic diffuse nephritis and chronic interstitial nephritis, or contracted kidney. Chronic diffuse nephritis may begin insidiously or as a sequel to the acute form. At the beginning there may be absolutely no symptoms to direct the patient's attention to the trouble, and the first intimation he has that something is wrong is when the urine is examined for some reason or other and albumin discovered.

If the disease is at all advanced the albumin is usually present in fair amount, and in the late stages becomes excessive. The specific gravity is not greatly altered and seems to vary with the amount of albumin secreted from day to day. If the quantity passed in twenty-four hours is carefully measured a diminution will usually be found. If dropsy is present, the amount of the chlorides is usually diminished and a lessened amount of urea is to be expected. The urinary sediment is abundant, and in consequence the urine is cloudy, containing granular and hyaline casts and renal epithelium.

Chronic interstitial nephritis is the bugbear of life-insurance companies, for the disease may be well advanced before it is discovered. It is usually chronic from the beginning, and its course may extend over many years. I have had under observation a number of men who have had the trouble ten or fifteen years and who are yet seemingly in good condition and show no signs of having a serious disease. These men, I believe, however, go off quickly at the end. The thing that will strike you most in diagnosticating this trouble is the constant low specific gravity. When a man over forty persists in furnishing me with urine, the gravity of which varies from 1.005 to 1.015, especially when I get it at the high tide of digestion, I expect to find hyaline casts if I look long enough for them. The urine even with this low specific gravity is usually distinctly acid, is pale and clear, containing little or no sediment, in marked contrast to the chronic diffuse form. The diurnal quantity is usually increased, and the solids and urea are diminished in quantity, although the chlorides are not diminished to the extent they are in diffuse nephritis, owing, perhaps, to the fact that anasarca is not so general. The subject often has occasion to rise at night to pass his water. Albumin may be present or absent. It is never in large amounts, and some observers state that the disease may run its course without its making its appearance. I am rather inclined to think, however, that if a sufficient number of careful tests are made it will be discovered. In such sediment as one is able to get, preferably by the centrifuge, may be found hyaline casts, cylindroids, and an occasional leucocyte. Uric acid and oxalate of calcium are fairly constant.

I usually preserve the urine with borolyptol, place a quantity in a conical glass, allow it to remain overnight, decant all but a small portion, and put the remainder in a centrifugal machine, in this way feeling fairly certain of obtaining the casts if they are present. Unless you do this you can not be sure they are *not* there, and you will all agree that one well-marked cast on a slide is worth, for diagnostic purposes, half a dozen slides on which nothing is found. The casts may be so few that only with the greatest care can they be discovered. In the diagnosis of this form of nephritis we are greatly aided by our examination of the heart, for hypertrophy begins early. Arterial tension is high from the beginning, and the second sound at the base is usually accentuated.

Having then observed the salient points of these two important forms of nephritis, let us determine the proper disposal of a subject for life insurance who does not present enough evidence to justify a diagnosis of inflammation of the kidney. We frequently find albumin in the urine in seemingly healthy men, and aside from this nothing abnormal can be discovered. The albumin may be constantly present or intermittent. In quantity, from a faint trace to a distinct amount; no casts, cylindroids, or renal epithelia. We exclude everything but serum albumin of renal origin, and there we are forced to stop. If we collect the urine for twenty-four hours we find the quantity passed, solids, urea, chlorides, and phosphates, nearly normal. There are no circulatory changes to help us, and we find ourselves confronted with albumin and nothing else. What does it mean? We go over all the apparent reasons as to why albumin may appear in the urine, acquaint ourselves as far as possible with the urethra and bladder, inquire as to diet, bathing, and exercise; his habits and mode of life; determine whether an altered arterial tension can produce it; look him over for anæmia, and find nothing to account for it. Can we issue a policy to such a subject during the continuance of the albumin? I know many men whom I observed eight or nine years ago who are still living, seemingly in good health, and to all appearances have many years of life before them. On the other hand, many men I have declined for just this cause and nothing else are now dead, some from subsequent nephritis and some from many other causes. With our present knowledge of the subject we can not accept them, for it is the constant experience of life-insurance companies that these subjects do badly when they are called on to go through any serious illness, such as pneumonia, typhoid fever, or serious accident. The presence of albumin may not, and certainly does not in all cases, mean Bright's; but it does mean something. I do not believe that an absolutely healthy man ever passes albumin. The cause producing it may be a temporary one, disappearing by itself or through proper treatment. But as long as it is present, and for a reasonable time after its disappearance to prove that it was accidental, we can not be justified in underestimating its importance. The time may come when we will be able to say that *this* form of albumin is of serious import and *that* form benign, but until then our only safety lies in considering that its presence is a danger signal we are bound to respect.

If we could be reasonably certain that the inflammation would not extend beyond the condition in which we find the kidney at the time of examination we might issue some form of policy that would cover the extra risk. By estimating the amount of urea and solids eliminated in twenty-four hours we can form a reasonable idea as to whether the kidneys are doing their work or not. But we can not be certain how long the favorable action will continue. A sudden cold or acute disease of almost any sort might have serious consequences in store for the damaged kidney; and when recovery would otherwise ensue, on account of the impaired organs, the patient goes from bad to worse and a seemingly trivial affair to-day becomes a serious problem tomorrow. Hence a man who is passing albumin is constantly living over a volcano. It may remain quiescent for years, or suddenly burst forth with most damaging consequences.

It is perhaps true that as a result of an early scarlet fever, diphtheria, or some other similar trouble a small part of one kidney may be damaged and the disease not extend beyond a limited portion, thus causing albumin and casts to appear in the urine. I have such a case in mind; and I have found these things over a period of nine years, and no doubt the trouble has been there much longer than that. The subject is now a man of thirty-five years and gives a history of acute nephritis following scarlet fever some eighteen years ago. Aside from the albumin and casts he is, as far as can be determined, a very healthy man. He does not show any evidence of the trouble, and his kidney lesion seems to be decreasing from year to year. He is an exceptionally good-looking risk, but I have never felt justified in recommending him for a policy, for one never knows when the quiescent inflammation will take on an active form and carry him off. It seems hard to deprive such a man of the benefits of insurance, but it is the only safe way for the company. I know another man who was declined nearly twenty years ago for albumin in considerable amount. I have examined his urine several times during the last few years and have never failed to find a liberal quantity, yet he seems to be in the best of health. He is now a man nearly sixty and will probably live for several years, although he is in constant danger, in consequence of some intercurrent disease which would put too great a task on the kidneys for them to stand. It is such exceptional cases as these, however, that only go to prove the general rule. It is not usual for a man to pass albumin for so long a time without finding other evidences of his disease. The albumin either ceases after a short time, showing that it was due to some temporary disturbance, or the patient proceeds to develop other symptoms of the disease.

In the early diagnosis of kidney inflammation microscopical examination is indispensable and of great value. Hyaline casts and cylindroids will point to contracted kidney. When granular casts are also present, accompanied with cloudy urine, much sediment, epithelium, and pus cells, the indications are strongly in favor of the chronic diffuse form. It is this latter condition that is usually seen by the general practitioner, for the other symptoms are earlier and more pronounced, and the patient will recognize that something is wrong and seek advice on his own account. The other form is more troublesome, for it is often hard to convince persons that they have anything the matter, and I am sorry to say that it has been my unpleasant observation that they do not receive much aid from their medical adviser. They go to him and say to him they have been told they had kidney trouble. He examines the urine, finds little or no albumin by his tests, makes a careless microscopical examination, and tells them the doctor is wrong, they have no disease. He frequently writes a certificate to this effect, and armed with this the man comes back for another interview, expecting and hoping to get his insurance forthwith. He believes his doctor, it's more pleasant, and leaves you thoroughly convinced that you have done him an injustice. I remember one man who several years ago talked about suing the company because I said he had a kidney trouble and would not issue the insurance, when his doctor and several others declared he was in perfect health. He argued and stormed and was not to be convinced. I learned a short time ago that he is now practically moribund with Bright's. It is an important thing for the general practitioner to be able to make careful tests of the urine. It is very easy to do, and very necessary, but I am sorry to say that it is a very frequent experience with me to read certificates of analysis from reputable men, setting forth that the urine is normal, when albumin and other abnormal products are distinctly present and in sufficient amount to be readily distinguished by the ordinary tests. I am sure your own observations will bear me out in this, especially those of you who do much insurance work. And if, when we get a chance, we can give our medical brothers a tip to be more careful, we shall be doing a good work for all concerned, especially the one most interested, the patient.

FOREIGN BODIES LODGED WITHIN THE EYEBALL.*

By EDWARD JACKSON, A. M., M. D.,
DENVER, COL.

Diagnosis.—Every penetrating wound of the eyeball should be carefully studied as a case of possible lodgment of a foreign body. The patient's account of his injury is always defective, and often misleading. Only careful cross-questioning will show how much of value there is in it. A foreign body having entered deeply does not cause the sensation of "something in the eye," and the patient, impelled by hope, is often very positive that nothing is lodged there. The diagnosis must be entirely independent of such testimony.

Every detail of the accident should be minutely investigated. If the body that inflicted the wound is obtainable, it should be examined to see if any portion has probably broken off and remained within the eye, or if it has probably acted as the carrier of adherent and possibly infective substances. An eyelash or even a bit of epithelium from the lid imbedded in the iris becomes the starting-point of a cyst. A slightly irregular edge or point would be very likely to introduce foreign matter, while a perfectly smooth point or edge would probably enter the eye cleaned by its passage through the sclero-corneal coat.

If the eye has been struck by a flying fragment, this should be carefully sought for. When it can not be found, inspection of the part from which it has broken will give valuable information as to its size and shape. Then the relative position of the point from which it flew, the exact attitude of the patient, and the direction in which he was looking at the instant may throw valuable light on the probable position of the foreign body.

To illustrate the possible importance of any exact observation of this kind, I may mention the case of a man sent to me from another hospital that he might have the benefit of an attempt at magnet extraction before resorting to enucleation of the eye for a fragment of steel that was believed to have lodged in it. There was a penetrating wound of the cornea and iris, and intraocular hæmorrhage prevented any view of the deeper structures of the eye. From the part of the wound that perforated the cornea a deep gash into the cornea, but not entirely through it, passed upward and to the right. Careful questioning showed clearly that the foreign body had come from below and to the left. It could not have entered the eye through the perforation in the cornea and afterward have cut the gash. But it must have struck the eye a glancing blow, hard enough at first to penetrate the cornea and iris, and afterward plowed its way through only a portion of the thickness of the cornea as it passed onward. The case was treated on this supposition, which its subsequent history sustained. The patient retained a sound and useful eye, which would certainly have been damaged if it had been subjected to prolonged attempts at extraction of the foreign body, which really was not lodged in it.

Besides the careful inspection of the external wound and the anterior segment of the eye by oblique illumination, every case of foreign body in the eye should be subjected to a thorough ophthalmoscopic examination at the earliest possible moment, before increasing cloudiness of the crystalline lens, or diffusion of opacity due to hæmorrhage, renders such an examination well-nigh useless. Even when the foreign body can not be seen with the ophthalmoscope its position may often be indicated by a streak of commencing opacity in the lens, or air-bubbles, or shreds of hæmorrhage marking its track through the vitreous. Such signs not only show the location of the foreign body, they are of great importance in making certain that it has really passed into the eye.

When the fact of its entrance seems clear, we must also consider whether it may not have passed entirely through the eyeball and lodged elsewhere.

I have seen two cases in which this occurred. One was that of a young man struck in the left eye with a No. 6 shot. He was not seen until the ninth day, when the lens was greatly swollen, the tension of the eyeball + T. 2, and a violent iridocyclitis called for enucleation. I suspected, however, that the shot was not in the eye, because of the very clear history the patient gave of the instant, complete blindness, which would be very unlikely to occur, except from a much more extensive injury of the globe, unless the optic nerve was injured. On examining the eye after removal, I found the wound of exit just at the margin of the optic nerve; the nerve had been divided, and the shot, having passed deeper, was not found.

In the other case a large piece of steel was known to have entered the eye. The patient was etherized and a careful search made for it with the electro-magnet. It was not found.

Two days later ecchymosis appeared at the upper and lower margins of the orbit and under the conjunctiva, and there was marked protrusion of the globe, showing that the foreign body had probably passed through the eyeball and caused hæmorrhage into the orbit. Three months later, when the shrunken globe was enucleated, we found it just back of the eyeball.

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* Read before the Colorado State Medical Society, June 20, 1899.

The foregoing case was seen in 1892; in a similar case occurring now the X rays would certainly reveal the position of such a foreign body. This valuable aid in diagnosis should be resorted to in all cases of suspected foreign body in the eye, where the exact location of it can not be made out by examination under oblique illumination or with the ophthalmoscope. Making two negatives with the tube placed in different positions, with some known fixed point, the shadow of which can be used as a point of reference for the shadow of the foreign body (especially by the method of Sweet), it becomes possible to determine the position of the latter with great exactness.

Unfortunately, a foreign body may be so small that it will give no perceptible shadow on the sensitive plate, and yet be large enough to cause the destruction of the eye. I have had one case in which many trials with the X rays failed to give any evidence of the presence of a small particle of steel, although it was clearly visible in the fundus with the ophthalmoscope.

Sweet, who made the radiographs in this case, has recorded another (*Archives of Ophthalmology*, July, 1898, p. 393) which indicates the present limits of the diagnostic value of the X rays in this direction. Only one of four negatives showed any trace of shadow of the foreign body, which on removal was found to be over one millimetre long, less than one millimetre wide, and 0.5 millimetre thick at the thickest part. Fragments smaller than this rarely strike the eye with sufficient momentum to carry them to the deeper portions. They are commonly arrested in the cornea, iris, or lens. Still we must bear in mind the possibility of their reaching the deeper structures and causing the most disastrous effects.

In considering the prognosis and treatment of eyes containing foreign bodies, it is best to divide the cases into three classes, according as the foreign body is located (1) in the iris or anterior chamber, (2) in the lens, or (3) in the vitreous or fundus.

Among twenty-five successive cases of foreign body lodged in the eyeball, the location of the foreign body was in the iris and anterior chamber in three, in the crystalline lens in four, and in the vitreous and fundus in sixteen. In one case it was partly in the iris and partly in the lens; and in the following case a foreign body, apparently simply lying on the iris, extended back through the zonule and into the vitreous.

J. D., aged twenty-three years, laborer, applied at Wills Hospital, January 8, 1898. The left eye had been struck by a flying piece of steel the evening of the preceding day. There was an irregular linear wound six or eight millimetres long across the central part of the cornea, and what appeared to be a triangular bit of steel three millimetres on a side at the lower part of the anterior chamber. An incision was made extending through the lower quadrant of the corneal limbus. An attempt to withdraw the foreign body and adjoining iris with iris forceps met with unexpected resistance. The foreign body was then coaxed out with the electro-magnet, and was found to be nine millimetres long, having extended back into the vitreous, it being only the head of the fragment that projected into the anterior chamber. The injured portion of the iris was excised, the patient placed in bed, and atropine and ice compresses used locally. The patient left the hospital at the end of five weeks with the eye quiet and vision $= \frac{5}{40}$, in spite of the corneal scar and some opacity in the lower part of the lens and lower anterior portion of the vitreous.

Treatment and Prognosis.—When a foreign body is lodged in the iris or anterior chamber its location is usually evident and its removal comparatively easy. It should be removed as soon as possible. The only exceptions I would make to this rule are: If the seat of lodgment is in the lens, or if the foreign body has been retained for some time and the eye has become entirely quiet, and the patient can remain within reach of skilled assistance in case irritation should arise. Powder grains are occasionally lodged on the iris or in the lens. I have never seen them penetrate more deeply than this, although sometimes they have done so, and in the great majority of cases they are arrested in the cornea. When after such an accident the eye has become entirely quiet, the finely powdered charcoal that alone remains of such a grain is not likely ever to cause irritation. But such grains are at first very irritating, and the eye may be lost while one waits for it to become quiet. If seen early, these injuries should be treated as other cases of foreign body similarly situated. This is illustrated by the following case:

J. O. D., a farmer, aged twenty years, had been injured by an explosion of gunpowder the preceding day. In the right eye there was one grain of powder imbedded in the cornea, but the deeper structures were uninjured. In the left eye there were several grains of powder imbedded in the cornea and iris as well as in the conjunctiva. There was severe swelling of the lids and inflammation of the conjunctiva with purulent discharge. The cornea was generally hazy.

The patient refused to go into the hospital or to have any operation done. A solution of atropine was ordered. In four days he returned decidedly worse and was admitted to the hospital. Under general anæsthesia an incision was made at the lower outer border of the cornea, five or six powder grains were picked from the front of the iris with the forceps, and about a sixth of the iris, the lower outer portion, containing several powder grains, was excised. The grains in the cornea and conjunctiva and in the lids and skin of the face were subsequently destroyed by the galvano-cautery. In fifteen days the eye was free from irritation, and subsequently obtained vision $= \frac{5}{10}$.

It is sometimes possible to disentangle a foreign body from the iris and remove it, leaving the iris intact;

but generally it is easier and safer to do a small iridectomy, removing with the foreign body the part of the iris that has become injured or infected by it.

A foreign body lodged in the crystalline lens causes traumatic cataract. If the wound of entrance is small, several weeks, or even months, may elapse before the opacity of the lens becomes complete, and the accompanying swelling will be very moderate; but if the opening in the lens capsule is large, the opacity increases rapidly and is attended with great swelling of the lens and sometimes increased tension of the eyeball. Aside from this there is little liability of a foreign body in the lens causing serious inflammation, or an iridocyclitis, ending in a degenerated eyeball. It is proper, therefore, to allow the traumatic cataract to develop, and then to extract it in the ordinary way, being careful to make a rather large corneal incision, and, if needful, doing an iridectomy to allow the free escape of the lens mass. Taking such precautions, I have never failed to remove the foreign body with the lens mass.

If the foreign body is not thus removed the traumatic cataract will slowly shrink, and ultimately, in most cases, will be entirely absorbed, allowing the foreign body to come in contact with other structures, and perhaps cause serious damage. I have seen a chip of steel, hanging in the remains of a lens, beginning to cause serious inflammation twenty-eight years after the original injury, the eye having, according to the patient's statement, remained quiet all that time.

A foreign body entering the vitreous, and lodging there or in the retina, chorioid, or ciliary body, is almost certain, if not promptly removed, to set up such inflammatory and degenerative changes as in the end render the eye functionally useless and a menace to its fellow, through sympathetic disease. In very rare cases this does not occur. Foreign bodies of moderate or small size entering through the cornea, iris, and crystalline lens are much less likely to set up a fatal iridocyclitis than those which enter more directly through the sclera. Smooth and aseptic particles, such as bird shot or splinters of glass or hot metal, are less likely to set up chronic degenerative changes; and small particles firmly fixed in the fundus are sometimes compatible with useful vision. I have met one case of this sort.

E. E. L., aged thirty-two years, express messenger. The right eye was struck with a small particle of steel twenty-one years ago. It now has vision = $\frac{1}{40}$, tension is normal, it diverges (comitant strabismus), and has circular pupil and normal iris. There is a faint track of opacity through the lens, with radiating opacity of the posterior cortex. The vitreous and fundus seem normal, except that the optic disc is red and hazy, and to the temporal side of it, 1.5 disc diameters from it, is a patch of chorioidal pigmentation and atrophy, in which is an irregular quadrilateral, the diameter of the disc in length and one half as wide, black, with light gray on the edges, apparently protruding in front of the retina.

The patient was shown before the Section of Ophthalmology of the College of Physicians, of Philadelphia, and all who saw it agreed that the quadrilateral mass seemed to be the foreign body. A year later there had been no perceptible change in the condition of the eye.

A few cases of this sort have been from time to time reported, and they should be taken into account when giving a prognosis or when the eye has become quiet, or is becoming quiet, when it is first seen. But they should not deter the surgeon from attempting the immediate removal of a foreign body from this region, whenever its presence and location can be certainly known soon after it has been lodged there. The chances of retaining a useful eye, or an eyeball that will not be dangerous to its fellow, are greatly improved by such removal. For particles of steel or iron, magnet extraction is the nice and scientific method of removal. But if, because of the lack of the necessary apparatus, or because of the composition of the foreign body, or the firmness with which it is imbedded, magnet extraction is impossible, if the location of the foreign body is accurately known, I believe we should always attempt its removal with scoop or forceps.

The details of such removal must be specially adapted to each individual case; there is no time now to discuss them. But this one point I would insist on: With the foreign body should be removed all badly damaged or probably infected tissue—the track of the foreign body through the vitreous, and the bed of tissue in which it lies. This can only be accomplished through a free scleral incision, made if possible through the point of entrance. Half the vitreous may be lost in a cataract extraction without serious consequences, and equally large losses of vitreous will be quite as harmless in these cases if we can only eliminate infection.

If we can save ten or fifteen per cent. of useful eyes by the extraction of the foreign body with the magnet, as heretofore generally practised, we can save two or three times as many by the careful application of well-known surgical principles to these injuries. To make a chip of steel jump from the wound of entrance with a giant magnet may seem a very brilliant operation to the bystanders, but it is a very useless one to the patient if it leaves a track of infection within the eye certain to result in its ultimate destruction. Surgery has no place for "successful operations" that work no permanent benefit for the patient.

PISTOL-SHOT WOUND OF THE ABDOMEN PERFORATING THE STOMACH.

RECOVERY.

By J. N. Le Conte, M. D.,

HOUSE SURGEON, JERSEY CITY HOSPITAL AND DISPENSARY.

W. C., a man of forty-four years, was admitted to Jersey City Hospital, June 22, 1899, at 10.30 P. M., half an hour after receiving a pistol-shot wound of the abdomen. The wound of entrance was two inches above the umbilicus and half an inch to the right of the median line; no wound of exit was visible. The patient showed no symptoms of shock, complained of no pain, and had not vomited.

Soon after admission the patient was seen by Dr. J. D. McGill, the visiting surgeon, and a laparotomy was decided upon. At 12 P. M., an hour and a half after admission, the patient was anæsthetized and by careful division of the tissues it was found that the ball had entered the peritoneal cavity.

Under strict antiseptic precautions an incision four inches in length was then made just to the right of the median line, and including the wound of entrance. A penetrating wound was found in the anterior wall of the stomach, about two inches and a half from the pylorus and an inch below the lesser curvature. The edges of the wound were pared, and it was closed by interrupted Lembert sutures, reenforced by a second row above. The sutures were of fine iron-dyed silk, thoroughly sterilized. The stomach was largely distended with gas, which hissed out loudly on manipulation, and aided in locating the second wound, which was about three inches from the pylorus, and exactly in the greater curvature, in the meshes of attachment of the greater omentum. This was closed in the same manner as the first.

Careful search failed to show any other visceral injuries. A number of blood clots and some of the stomach contents were found in the peritoneal cavity, which was thoroughly flushed out with hot sterile saline solution, and the wound closed, without drainage, by sutures of silkworm gut, including all layers, and superficial sutures of catgut. The patient took ether very badly and vomited persistently while the operation was in progress. He was fed *per rectum* for the first five days.

When the wound was dressed, on the fifth day, several stitch abscesses were present, which yielded to treatment, and primary union was obtained. On July 17th the bullet was located in the subcutaneous tissues, four inches and a half to the right of the spinal column and half an inch below the crest of the ilium.

A small incision was made and a .32-calibre bullet was removed. Convalescence was uneventful, the patient complaining of no pain at any time. He was discharged cured on August 1, 1899.

Therapeutical Notes.

Ammonium Chloride in Trigeminal Neuralgia.—The use of sal ammoniac in neuralgia is not new; it has been resorted to particularly in ovarian neuralgia. Still, it is well deserving of mention. In the August 10th number of *Treatment*, Dr. Harry Campbell says that his favorite prescription for neuralgia of the fifth nerve is the following:

℞ Ammonium chloride	½	drachm;
Tincture of gelsemium	7½	minims;
Tincture of aconite	1	minim;
Fluid extract of licorice	1	drachm;
Water, enough to make.......	1	ounce.

M. This amount to be taken every hour, when the pain comes on, till three doses have been taken.

For Menorrhagia.—According to the *Revue médicale* for August 2d, M. Robin advises that where the menses anticipate the period and are prolonged beyond the ordinary term there be taken at the two principal meals eight days before the proper menstrual period from one to three coffeespoonfuls of the following preparation:

℞ Elixir of Garus	1,500	grains;
Fluid extract of hydrastis, Fluid extract of viburnum, } of each,	90	"

M.

This medication is to be discontinued from the day of establishment of the menses, and to be resumed on the fourth day if the menstrual flow is prolonged.

Hayem's Artificial Serum in Malignant Syphilis.—Augagneur (*Annales de dermatologie et de syphiligraphie*, 1899, No. 5; *Monatsberichte über die Gesammtleistungen auf dem Gebiete der Krankheiten des Harn- und Sexual-Apparates*, iv, 8) has employed in two cases injections of the following solution with good results:

℞ Sodium chloride	7	parts;
Sodium phosphate	2	"
Water	1,000	"

M.

Whether it acts by exciting diuresis or by promoting leucocytosis is uncertain, but the more pronounced are the fever and diuresis that follow, the more eneregtic is the therapeutic action. Augagneur gives four or five subcutaneous injections, of from twelve to fifteen ounces each, at intervals of five or six days.

An Application for the Earache of Influenza.—Noquet, of Lille (*Semaine médicale; Gazette hebdomadaire de médecine et de chirurgie*, July 23d) recommends this preparation:

℞ Poppy heads	No. 5;	
Water	7,500	grains;

Boil down to fifty cubic centimetres, filter, and add:

Chloral hydrate	7½	grains;
Morphine hydrochloride	3	"
Resorcin	15	"

A few drops are to be instilled into the ear, and relief is to be expected in from fifteen to thirty minutes. After several instillations the pain sometimes disappears entirely

A Syrup for Psoriasis.—According to the *Riforma medica* for July 19th, Brocq recommends:

℞ Arsenate of sodium	$\frac{9}{10}$	grain:
Salicylate of sodium	45	grains;
Bicarbonate of sodium	120	"
Syrup of gentian, Syrup of soapwort, } of each..	1,875	"

M.

A soupspoonful after every meal.

For Chloroanæmia.—The *Riforma medica* for July 18th gives the following on the authority of Baccelli:

℞ Artemisia	$\frac{1}{65}$	grain;
Crystallized quassine	$\frac{1}{65}$	"
Protoxalate of iron	1½	"

M.

For a lozenge. Four may be taken daily, two before each principal meal.

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HOSPITALS FOR CONSUMPTIVES.

A most important addition to the recent literature of the prevention and treatment of pulmonary consumption is Dr. Knopf's Alvarenga prize essay entitled *Pulmonary Tuberculosis: its Modern Prophylaxis and the Treatment in Special Institutions and at Home.* In our issue for September 2d we gave a brief notice of the book—all that our space would admit of—but it is worthy of further mention. The essay treats of a multitude of matters intimately connected with the problem of overcoming the disease, and with all of them in a most interesting way, but we must content ourselves here with calling attention to but one of them, the author's ideal of a hospital for consumptives.

Dr. Knopf declares his disbelief in the specific antiphthisical action of any particular climate, and he would, therefore, place the hospital within easy reach of some large centre of population. At the same time, he would pay attention to atmospheric conditions, and would have his institution in a situation free from miasm, with the extremes of temperature not too pronounced, and, if the region admits of it, at a height of from a thousand to fifteen hundred feet above sea level. He would also seek for it the protection against cold winds of higher hills or a wooded country, preferably a pine forest. To show that special climatic conditions are not really necessary to the achievement of noteworthy results, he cites the Sharon Sanatorium, near Boston, and the Chestnut Hill Hospital for Consumptives, near Philadelphia, for neither of which can any such conditions be alleged.

As regards the buildings, the author would avoid on the one hand the large aggregations found in some European institutions, fearing that they would hamper hygienic measures, and on the other hand the small cottages of the American plan, on account of the difficulty of administering them with due regard for economy. He gives detailed plans prepared in accord with his designs by Professor Van Pelt, of Cornell University, and they seem to us to be not only suitable for the object primarily sought for, but also susceptible of satisfactory elaboration from the architect's point of view. All the buildings that would form essential parts of the hospital would be connected by protected galleries, and there would be two independent houses, one for the residence of the professional and administrative officers of the institution, and the other for the accommodation of persons who came to visit the patients.

Dr. Knopf gives details for the administration of such a hospital, all worked out with particular reference to the saving or prolonging of life in cases of pulmonary consumption and to preventing the disease from spreading. A notable point in promoting the last-mentioned object rests on the thesis that, to stamp out tuberculous disease among human beings, we must first exterminate it among brutes. It follows, as Dr. Knopf insists more pointedly than most writers, so far as we can call to mind, that the infected refuse of a hospital must be so disposed of that the domestic animals can not get access to it. This may seem like a small matter, but to us it appears one of great importance, and we mention it as exemplifying the comprehensiveness of the author's study. In our opinion, his essay ought to serve as an incitement to very great improvement in our methods of dealing with consumption.

THE "FLEXION" STYLE OF MARCHING.

This is a new style of marching which has been introduced into the French army. For a description of it, together with some account of the benefit thought to result from its employment, we are indebted to the *Army and Navy Journal,* which, in its issue for September 9th, says: "The style is so new that there is no text-book on the market as yet, but several French writers give the following general idea of the body movements: The knees must be always bent; the feet lifted no higher than necessary to clear the inequalities of the ground; the advancing foot must be placed flat on the ground, the step being made neither by the toe nor by the heel. The footfall should be noiseless, and the steps at first short and frequent. The body must lean well forward, the back must be straight and the head erect, the chest open and shoulders low. It is recommended that, when at drill, a short stick be held with both hands in front of the chest. The lessons should not be more frequent than two or three times a week. A table is given of the distance to be traversed in each of the thirty-six lessons, beginning with three thousand yards and going up to twelve thousand; also showing how in the early lessons ten minutes is allowed for the first kilometre, nine and a half for the second, and seven and three quarters for the third; these times steadily diminish with each lesson, as the pace increases, until finally the first kilometre, or five eighths of a mile, is traveled in seven and three quarter minutes, the second in six and a quarter, and the third in five and three quarters. Now, one kilometre in five and three quarter minutes is a good six and a half miles an hour." It is added that a three months' drill is necessary to thorough training in the "flexion" march.

The statement is made that this style of march is really a run, although we do not find it stated that the foot behind leaves the ground before the foot in advance has taken it, and it is that occurrence, not speed, that distinguishes running from walking. Whichever we may call this new style of marching, a run or a walk, some important advantages are alleged for it. Naturally, as the trunk is inclined decidedly forward, the soldier does not appear so tall as he would otherwise look, and we may surmise that when advancing in this style under musketry fire a body of men might come out with less than the usual loss, on account of the tendency of the enemy's bullets to fly relatively more than ever too high. Dynamometric experiments are said to have shown that the foot does not press so heavily on the ground as in the ordinary style of marching, and so, it is suggested, the man has more strength left to expend in propulsion; moreover, there is less of a jar at each step, and, in place of the customary tramp of armed men, the tread is comparatively noiseless.

Two officers, two sergeants, and thirty men of a regiment were put under training at Nantes, says our contemporary, and it is reported that "after three months' instruction, they marched, in the presence of General Fay, carrying their rifles, bayonets, one hundred rounds of ammunition per man, and food for one meal, along a hilly road, a distance of twelve miles and a half in an hour and forty-six minutes, which is at the rate of rather over seven miles an hour. Not one man fell out by the way. After a rest of two hours, they returned in three hours and five minutes, including two halts of ten minutes each, which gives an average speed of over four miles and a half an hour. Two days afterward these same men, in the presence of General Colonieu, in heavy marching order, covered a distance of six miles and seven eighths across fields on hilly ground in an hour and twenty minutes, which works out at about five miles and a half an hour. At the end of their march they were at once told off to target practice, when their shooting proved superior to that of the best company of marksmen in the regiment; this was done to determine whether the exertions of their rapid march had injured their capabilities as riflemen."

Enough seems to have been established in favor of the new style of marching to make it desirable to try it at least with our own forces. Such a trial would be quite in line with the commendable modern idea of taxing the soldier's strength as little as possible.

FALSE WITNESS AS THE RESULT OF SUGGESTION.

According to M. Joire, of Lille (*Gazette hebdomadaire de médecine et de chirurgie*, August 10th), false testimony as a result of suggestion may be divided into three categories. The first form is that of deliberate direct suggestion, such as when a person in the hypnotic state is directed to subsequently give certain evidence calculated to cause a miscarriage of justice. This condition, as the author says, if it ever really occurs, must necessarily be very rare, for it would necessitate the agency of one thoroughly skilled in hypnotism and dexterous in employing suggestion, and, moreover, a subject so sensitive as to be capable of being rapidly and without his consciousness thrown into the somnambulistic state. In the event of such a case occurring, physicians familiar with hypnotism would at once recognize the subject's condition, and might even by skillful questioning discover the guilty person.

In the second category must be placed false witness as a result of "auto-suggestion." Here we have only one person involved, and the suggestion, no matter from what source it arises, is given and received by the same subject. Cases of this kind are numerous, and include the hysterical and other classes of false accusation with which the medical profession is familiar to its cost.

The third type is the most important of all, and at the same time the least known. It includes those cases in which a suggestion is conveyed involuntarily and in an unconscious manner.

The author points out that it is well known how easily children are disposed to receive as true a statement which is positively asserted to them by one imposing on them. But it is not sufficiently borne in mind that many adults, not presenting in ordinary life any remarkable peculiarity, are yet susceptible enough to suggestion even to the point of believing implicitly a thing involuntarily suggested to them under the form of a simple interrogation. In this fashion, says M. Joire, a man subjected to the conditions of a simple examination, such as could be imposed by an examining magistrate or a commissary of police, did not hesitate to assert in writing that he had been present at the perpetration of crimes which were absolutely fictitious. Further, he recognized the criminal from among portraits which were shown to him.

The conclusion which the author draws from his experiments is that it is necessary to call the attention of the judiciary and of counsel to the possibility of such false witness. In case of doubt, counsel should not hesitate to demand an examination into the mental condition of the witnesses by a physician specially competent to investigate the question of suggestion.

In Anglo-Saxon courts "leading questions" are not supposed to be admissible. The wisdom of this course receives a special indorsement from the foregoing considerations. The objection to them is based rather on their possible use as "pointers" to direct an intentionally partisan witness to the desired answer; but their dangerousness as a means to mislead by "suggestion" a perfectly well-intentioned witness is equally obvious. The Latin countries might with advantage initiate a judicial reform by the adoption of this principle.

CONSUMPTION IN CALIFORNIA AND THE STATE BOARD OF HEALTH.

A DISPATCH to the *New York Times* announces that the State board of health of California has resolved to "consider the propriety of quarantining against human beings and domestic animals with tuberculosis entering the State." There can be no harm in the board's considering the matter, but we trust it will do nothing rash. Less quarantining should be done rather than more.

THE NURSING SERVICE IN THE PHILIPPINES.

IT was stated not long ago that there was a disposition on the part of General Otis to rate the need of nurses in the Philippines lower than it was estimated by Colonel Woodhull, the chief surgeon in Manila. This we deprecated at the time, and we are now glad to learn by the *Army and Navy Journal* for September 9th that the surgeon-general is waiting for a dispatch on the subject from Colonel Woodhull, and that efforts are being made to recruit adequate hospital corps for the regiments now in the Philippines and the new regiments to be sent there.

"PERVERSE ACTION" OF THE VELUM PALATI.

THE vocal bands, it seems, are not the only parts open to the reproach of "perverse action," for Sänger, of Magdeburg (*Wiener klinische Rundschau*, August 6th), applies it to the veil of the palate in a case in which a nasal twang was produced by abnormal elevation of that structure in the articulation of certain consonant sounds. He says that he has seen three such cases.

THE DANGER OF STEAM CAUTERIZATION OF THE UTERUS.

THAT cauterization of the uterus by means of steam, the so-called atmocausis, is not devoid of danger is shown by a case reported by von Guérard, of Düsseldorf (*Centralblatt für Gynäkologie*, September 2d). After its performance the woman was confined to bed for five or six weeks, and this was followed by such persistent pain in the back that she submitted to hysterectomy. There was absolute atresia of the cervical canal, with extraordinary tenderness of all the genital organs, especially the uterus. Before being steamed she had had ventrofixation of the uterus performed.

ERYSIPELATOUS PNEUMONIA.

THE old writers described such a disease, and its occasional occurrence seems to be substantiated by a case reported by Artaud and Barjou (*Gazette des hôpitaux*, 1898; No. 102; *Centralblatt für innere Medicin*, August 26, 1899). The patient, who was recovering from facial erysipelas, was attacked with dyspnœa disproportionate to the physical signs and with spasmodic cough. There were no pneumococci in the sputa, but they contained the *Streptococcus erysipelatos*, as was shown by their producing typical erysipelas when inoculated on a rabbit's ear.

AURAL VARICES DUE TO PREGNANCY.

IT seems difficult to account on mechanical grounds for the production of varices of the ear as a result of pregnancy. Warnecke (*Archiv für Ohrenheilkunde*, xlv; *Deutsche Aerzte-Zeitung*, September 1st) reports a case of varicose swellings of various sizes on the auricle and in the external auditory canal of a woman in the eighth month of her eleventh pregnancy. She stated that she had been affected in the same way in all her pregnancies, and that the swellings had always subsided at once on her delivery, although they had not wholly disappeared.

THE BACILLUS ICTEROIDES CONTROVERSY.

DR. SANARELLI's criticisms of the work done by Surgeon Walter Reed and Acting Assistant Surgeon James Carroll, of the army, have led those gentlemen to reply in the *Medical News* for September. They show that Sanarelli's suggestion that they had accidentally "mixed" the *Bacillus icteroides* and the *Bacillus choleræ suis* was erroneous, and they appear to show that some of his statements concerning hog cholera are not true. Finally, they declare that they are more than ever inclined to look upon Sanarelli's bacillus as a variety of the hog-cholera germ and as a "secondary invader" in cases of yellow fever.

THE *BULLETIN OF THE JOHNS HOPKINS HOSPITAL.*

A DOUBLE number of this excellent publication, for August and September, is largely devoted to historical and biographical matters. One of the most interesting articles, by Dr. Charles C. Bombaugh, is entitled Female Poisoners, Ancient and Modern. More of this sort of writing would not, in our opinion, be out of place in our medical periodicals.

ITEMS.

The National Guard of the State of New York.—It is announced in the *New York Times* that Assistant Surgeon C. J. Colles, of the Seventh Regiment, has been appointed surgeon with the rank of major, in place of

Surgeon Daniel M. Stimson, resigned; that Dr. R. M. Daly has been appointed assistant surgeon to the Sixty-ninth Regiment; and that Surgeon Frederick J. J. Wood, of the Forty-seventh Regiment, has been chosen to represent New York State at the meeting of the Association of Military Surgeons to be held in Kansas City on September 27th.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending September 16, 1899:

DISEASES.	Week ending Sept. 9.		Week ending Sept. 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	70	21	99	16
Scarlet fever	57	2	63	4
Cerebro-spinal meningitis	0	0	0	3
Measles	64	9	41	6
Diphtheria	130	26	148	15
Croup	7	2	4	10
Tuberculosis	163	159	131	117
Small-pox	0	0	0	0
Chicken-pox	2	0	4	0

Change of Address.—Dr. G. Kremer, to No. 343 East Eighty-fourth Street, New York.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending September 15, 1899:

Small-pox—United States.

Jacksonville, Fla.	Sept. 2	1 case.	
Fall River, Mass.	Sept. 2–9	1 "	
Cincinnati, Ohio	Aug. 25–Sept. 1	6 cases.	
Cleveland, Ohio	Sept. 1–8	4 "	
Philadelphia, Pa	Sept. 9		1 death.
San Antonio, Texas	Aug. 31	1 case,	1 "
Texas, sixteen places	Aug. 5–Sept. 2	76 cases,	4 deaths.
Portsmouth, Va.	Sept. 9	1 case.	

Small-pox—Foreign.

Antwerp, Belgium	Aug. 26	3 cases.	
Rio de Janeiro, Brazil	July 28	54 "	34 deaths.
Casilda, Cuba	Aug. 1–31		1 death.
Athens, Greece	Aug. 26–28	11 "	2 deaths.
Bombay, India	Aug. 15		11 "
Chihuahua, Mexico	Sept. 4		4 "
Mexico, Mexico	Aug. 20–27	4 "	3 "
Mexico, Mexico	Aug. 27–Sept. 7	5 "	3 "
Tuxpan, Mexico	Sept. 4		2 "
Moscow, Russia	Aug. 12–19	1 case,	1 death.
Odessa, Russia	Aug. 19–26	1 "	1 "
Warsaw, Russia	Aug. 12–19		3 deaths.
Valencia, Spain	Aug. 22–29	4 cases,	5 "
Erzeroum, Turkey	Aug. 5–12	2 "	
Smyrna, Turkey	Aug. 13–20		1 death.

Yellow Fever—United States.

Key West, Fla.	Sept. 9–12	92 cases,	3 deaths.
Port Tampa City, Fla.	Sept. 11		1 death.
New Orleans, La.	From outbreak to Sept. 11	7 "	2 deaths.
Jackson, Miss.	Sept. 10	1 case.	
Mississippi City, Miss.	Sept. 10	1 "	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	July 28	5 cases,	2 deaths.
Havana, Cuba	Aug. 31–Sept. 3		5 "
Barranquilla, Colombia	Aug. 20	1 case,	1 death.
Colon, Colombia	Sept. 4	1 "	1 "
Orizaba, Mexico	Aug. 15–26		6 deaths.
Tuxpan, Mexico	Sept. 4		2 "
Vera Cruz, Mexico	Aug. 24–31	16 cases,	11 "

Cholera.

Bombay, India	Aug. 15–17		1 death.
Calcutta, India	Aug. 15–17		27 deaths.
Yokohama, Japan	July 16–20	2 cases,	2 "
Karachi, China	Aug. 12	14 "	17 "

Plague.

Alexandria, Egypt	Aug. 20	2 cases,	1 death.
Karachi, China	Aug. 12	1 case,	2 deaths.
Bombay, India	Aug. 15–17		71 "
Calcutta, India	Aug 5–17		52 "

National University of Washington, D. C.—We learn that Dr. J. Carlisle De Vries has been appointed professor of pathology at the National University, Washington, D. C.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending September 16, 1899:*

ARNOLD, W. F., Passed Assistant Surgeon. Ordered to the Pensacola Navy Yard, Florida.

BOGERT, E. S., Passed Assistant Surgeon. Detached from the marine recruiting rendezvous, New York, and ordered home to await orders.

CRAWFORD, M. H., Surgeon. Detached from the marine recruiting rendezvous, Chicago, and ordered to the marine recruiting rendezvous, New York.

ELLIOTT, M. S., Assistant Surgeon. Detached from the marine recruiting rendezvous, New York, and ordered to the *Vermont*.

GARTON, W. M., Assistant Surgeon. Detached from the *Franklin* and ordered to the Washington Navy Yard.

HARRIS, H. N. T., Passed Assistant Surgeon. Detached from the Pensacola Navy Yard, Florida, and ordered home to await orders.

LOVERING, P. A., Surgeon. Ordered to duty at the marine recruiting rendezvous, Buffalo.

MOORE, J. M., Passed Assistant Surgeon. Detached from the *Vermont* and ordered to the marine recruiting rendezvous, Chicago.

PARKER, E. C., Assistant Surgeon. Detached from the Pensacola Navy Yard, Florida, and ordered to the *Hartford*.

TRYON, J. R., Medical Director. Detached from duty as general inspector of naval hospitals and ordered home to await orders.

VON WEDEKIND, L. L., Passed Assistant Surgeon. Granted sick leave for three months when discharged from the Naval Hospital, Mare Island, California.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Twenty-one Days ending September 14, 1899:*

WHITE, J. H., Surgeon. Directed to proceed to National Soldiers' Home, Virginia, for special temporary duty.

MAGRUDER, G. M., Surgeon. To proceed to Port Tampa, Florida, for special temporary duty.

WERTENBAKER, C. P., Passed Assistant Surgeon. Granted leave of absence for fourteen days on account of sickness.

SMITH, A. C., Passed Assistant Surgeon. To proceed to Tortugas Quarantine for special temporary duty.

GARDNER, CHARLES H., Passed Assistant Surgeon. Granted leave of absence for one day.

WICKES, H. W., Passed Assistant Surgeon. Leave of absence extended four days.

Fricks, L. D., Assistant Surgeon. To proceed to Key West, Florida, for special temporary duty.

Corput, G. M., Assistant Surgeon. Relieved from duty at Egmont Key Detention Camp, Florida, and granted leave of absence for thirty days on account of sickness.

King, Walter W., Assistant Surgeon. Relieved from duty at Reedy Island Quarantine and directed to proceed to New Orleans and report to the commanding officer for duty and assignment to quarters.

Thornbury, F. J., Assistant Surgeon. Relieved from duty at Baltimore and directed to proceed to the Immigration Depot, New York, and report to the commanding officer for duty.

Trotter, F. E., Assistant Surgeon. Relieved from duty at Immigration Depot, New York, and directed to proceed to Mullet Key Detention Camp, Florida, and assume command.

Bean, L. C., Acting Assistant Surgeon. Granted leave of absence for one day.

Brown, B. J., Jr., Acting Assistant Surgeon. Granted leave of absence for three days.

Duffy, Francis, Acting Assistant Surgeon. Granted leave of absence for two days.

Goldsborough, B. W. Acting Assistant Surgeon. Granted leave of absence for one day.

Smith, A. W., Acting Assistant Surgeon. Relieved from duty at Cape Charles Quarantine and directed to rejoin station at Baltimore.

Peck, F. H., Hospital Steward. Relieved from duty at Hampton, Virginia, and directed to proceed to Mullet Key Detention Camp, Florida, for special temporary duty.

Olsen, E. T., Hospital Steward. To proceed to Tortugas Quarantine for special temporary duty.

Carter, H. R., Surgeon. To proceed to Key West, Florida, for special temporary duty, and from Key West, Florida, to New Orleans, Louisiana, to assume charge of service matters.

Magruder, G. M., Surgeon. To proceed to New Orleans for special temporary duty.

Perry, T. B., Passed Assistant Surgeon. Relieved from duty at San Francisco and directed to proceed to Stapleton, New York, and report to the commanding officer for duty and assignment to quarters.

Eager, J. M., Passed Assistant Surgeon. To proceed to Saginaw, Michigan, as inspector.

Rosenau, M. J., Passed Assistant Surgeon. Detailed as temporary quarantine officer at Havana, Cuba.

Nydegger, J. A., Passed Assistant Surgeon. Relieved from duty at Marine Hospital, New Orleans, and directed to report to Surgeon **Magruder** for special temporary duty.

Blue, Rupert, Passed Assistant Surgeon. Granted leave of absence for one month and eight days from October 6, 1899.

McMullen, J., Assistant Surgeon. To proceed to Memphis for special temporary duty.

Von Ezdorf, R. H., Assistant Surgeon. Relieved from duty at Hampton, Virginia, and directed to rejoin station at New Orleans.

Adams, F. B., Acting Assistant Surgeon. Granted leave of absence for ten days.

Appointment.

Agnelly, Edward J., of New York, to be junior hospital steward.

Board Convened.

Board convened to meet at New York, October 4, 1899, for the examination of candidates for appointment as assistant surgeon in the service and officers for promotion. Detail for the board: **Austin, H. W.**, Surgeon, chairman; **Stoner, G. W.**, Surgeon; **Banks, C. E.**, Surgeon, recorder.

Society Meetings for the Coming Week:

Monday, *September 25th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *September 26th:* New York Dermatological Society (private); Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Rome, New York, Medical Society; Medical Society of the County of Lewis, New York (quarterly); Boston Society of Medical Sciences (private); Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *September 27th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; American Microscopical Society of the City of New York; Auburn, New York, City Medical Association; Berkshire, Massachusetts, District Medical Society (Pittsfield); Philadelphia County Medical Society.

Thursday, *September 28th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia (conversational).

Births, Marriages, and Deaths.

Married.

Hoover—Ryder.—In Greene, Rhode Island, on Friday, September 8th, Dr. John H. Hoover and Mrs. Harriet Ryder.

Martin—Souchon.—In New Orleans, on Thursday, September 14th, Mr. Henry Martin and Miss Ophelia Souchon, daughter of Dr. Eugene Souchon.

McIntyre—McDowell.—In Williamsport, Pennsylvania, on Thursday, September 14th, Dr. Hugh McIntyre, of Buffalo, and Miss Frances McDowell.

Santry—Mullen.—In Little Falls, New York, on Monday, September 18th, Dr. Augustus Bernhard Santry and Miss Margaret Frances Mullen.

Webster — Jones.—In Brockville, Ontario, on Tuesday, August 29th, Dr. Robert E. Webster and Miss Irene Jones.

Died.

Clement.—In East Arlington, Vermont, on Saturday, September 16th, Dr. A. B. Clement, in the thirty-first year of his age.

Rogers.—In North Creek, New York, on Thursday, September 14th, Dr. Samuel H. Rogers.

Schenck.—In Brooklyn, on Tuesday, August 15th, Dr. Tunis Schenck, in the fifty-eighth year of his age.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XXXVII.

CIVIL MALPRACTICE, INCLUDING GENERAL LIABILITY OF PHYSICIAN TO PATIENT.

(Continued from page 421.)

Measure of Damages.—Damages is defined as "the injury or loss for which compensation is sought," * and the measure of damages refers to the amount or extent of such "injury," or "loss"; or, perhaps, more properly, to the amount of compensation to be awarded in adjustment of such "injury" or "loss."

In assessing the amount of damages which the injured party should receive to compensate him for the injury or loss he has sustained, three distinct classes are recognized and awarded to suit the merits of the case: First, nominal damages, or some trifling sum, which is awarded when a breach of duty or an infraction of the plaintiff's right is shown, but no serious loss is proved to have been sustained.

Second, substantial or compensatory damages. These are such as are designed and awarded to compensate for the actual loss or injury sustained.

Third, exemplary damages, also termed punitive and vindictive damages. This class of damages exceeds the loss actually sustained, and is given as a kind of punishment to the defendant.

Nominal Damages.—Nominal damages, it seems, are implied by law when there is shown to have been a violation of the plaintiff's right, but where no damages are shown by the evidence to have been sustained. Nominal damages are also proper in those cases where lack of skill or care is shown, but where it is impossible to distinguish between the consequences of the physical ailment for which the patient was being treated and those of the lack of professional skill and care.†

Compensatory Damages.—Substantial or compensatory damages can be awarded only when there is evidence adduced at the trial of a loss or injury sustained from the defendant's wrongful act upon which suit is brought. In such a case it is the duty of the jury to weigh the evidence and fix such an amount as in their opinion properly compensates the injured party for the loss suffered, as determined from the evidence before them.

In estimating such damages it is proper for the jury, when there is evidence before them to justify their so doing, to take into consideration:

The expenses incurred by way of physician's or surgeon's fees, nursing, and drugs and medicines which have been rendered necessary by the unprofessional treatment complained of. They must, however, carefully exclude from this item all expenses of the sort necessitated by the original sickness or injury for which the defendant treated the patient. If the expenses for the original illness and those necessitated by the aggravated injuries or injuries caused by the act complained of can not be separated, then this item should not be considered.

The loss of time caused by such injury, together with the value of the same.

The physical and mental pain and suffering endured as a direct result of such improper treatment.

And in cases where the injury is shown to be permanent, the jury may consider its effect upon the plaintiff's capacity to earn money in the future, and also consider future pain and suffering, both physical and mental.

Exemplary Damages.—Whenever the unprofessional treatment upon which the suit is based is attended with fraud, malice, or gross negligence, and such fact is shown to the jury by the evidence, they may, in assessing the plaintiff's damages, consider not only the actual expense inflicted upon him, together with the amount proper to compensate him for physical and mental anguish, but may go still further and inflict damages upon the defendant for his intentionally vicious or grossly improper act. Such damages are exemplary or punitive, and are allowable upon the theory that they will act as a punishment to the wrongdoer, and thereby deter others from committing like flagrant acts.

While the foregoing general treatment of damages as involved in the scope of these articles is calculated to give the practitioner a comprehensive although rather superficial idea of the subject, it is thought that a more particular and less extended examination will be of greater value and more satisfactory to the reader. This effect is designed to be accomplished by examining particular cases, thus showing correctly the application of these governing rules.

Illustrations: Nominal Damages.—Nominal damages are proper and are the only damages that the jury will be permitted to assess either where no damages are shown by the evidence to have been sustained or where the injury sustained from the defendant's improper treatment can not be distinguished from the sickness or injury for which the plaintiff was treated.

In the case of Becker *vs.* Janinski, the plaintiff had a miscarriage. The evidence showed some improper treatment by the defendant; it also showed that the patient's general health was impaired. There was evidence introduced on behalf of the defendant to show the injurious effect of a miscarriage upon the general health, from which it was argued that the injury complained of to the plaintiff's health was the result of the miscarriage, for which the defendant was not to blame; and, at least, that it was impossible to say the injury was due solely to the alleged improper treatment. Upon this point the jury was instructed that "The defendant not being responsible for the miscarriage, he is not to be made liable for any of its consequences. If liable at all, he is liable only for the effects of his maltreatment of the plaintiff. So that, should you find it impossible to distinguish between the consequences of the miscarriage and the consequences of the maltreatment—should you be unable to find upon the evidence that the plaintiff has suffered any injury distinctively due to maltreatment—you will award only nominal damages against the defendant." *

Illustrations: Compensatory Damages.—In this class of damages the jury are supposed to determine as accurately as possible the extent of the injury suffered by the plaintiff and give him damages which shall fairly compensate him for the loss and injury sustained. There are, however, so many elements to be considered in determining damages in this kind of cases which can not be reduced to an accurate monetary basis that the verdicts of different juries will very materially differ in the same case.

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* Bouv. Law Dic. Title, Damages.

† Becker *vs.* Janinski, 27 Abb. N. C., 45.

* Becker *vs.* Janinski, 27 Abb. N. C., 48.

This is very well illustrated in the case of Barns *vs.* Means.* Here the plaintiff had sustained fractures of the tibia and fibula; that of the tibia was oblique and near the upper part of the lower third of the limb, while that of the fibula was nearly transverse, and was from three to four inches above the ankle joint. By reason of not applying extension and counter-extension at the proper time the bones were allowed to lap three quarters of an inch. This case was twice tried. The first jury assessed the damages at five hundred dollars. On motion of defendant the verdict was set aside, a new trial was had, and the damages were assessed by the new jury at one thousand dollars.

In the case of Wood *vs.* Clapp,† a verdict of one thousand dollars was assessed where the evidence showed an improper and unsuccessful treatment of an arm which resulted in permanent disability.

In the case of Smothers *vs.* Hanks,‡ both bones of the plaintiff's arm were fractured near the wrist. The evidence showed unskillful treatment. The arm, hand, and fingers were crooked and stiff—perhaps permanently so. The jury gave a verdict for two thousand dollars. This, on motion for a new trial, was reduced to twelve hundred dollars, probably by mutual consent of the parties.

In the case of Teft *vs.* Wilcox,# the plaintiff, who had suffered from rheumatism and neuralgia in his shoulder, sustained a dislocation of the shoulder joint. From the improper treatment of this injury the shoulder became permanently disabled. His damages were assessed at two thousand nine hundred dollars.

It was held in the case of Kelsey *vs.* Hay || that a verdict of four thousand five hundred dollars was not excessive where the plaintiff was crippled in both legs for life by the ignorance and mismanagement of his physician. The deformity complained of resulted from improper treatment of fractures in both legs, at what joints the report does not show.

In the case of Quinn *vs.* Higgins ^ damages amounting to one thousand six hundred dollars were awarded for maltreatment of a fractured leg which resulted in a "false joint."

In the case of Williams *vs.* Poppleton ◊ the plaintiff had received an injury at the ankle, probably a dislocation and slight fracture. There was some evidence of improper treatment; the bones became diseased and the leg was amputated above the knee. The jury found a verdict of nine hundred dollars. Whether this verdict was intended as a compensation for the loss of the leg through improper treatment of the defendant, or whether it was for unnecessarily and improperly prolonging the plaintiff's sufferings in not performing the amputation for a considerable time after it should have been performed, does not appear. It was probably intended for the latter.

The jury awarded damages to the amount of two thousand and twenty-five dollars in the case of Howard *vs.* Grover,* where the defendant performed two amputations upon the plaintiff's thigh, both of which were unsuccessful. The first amputation was at the proper place, but the bone was left protruding too far; the second was not shown to have been improperly performed, but was not performed at the right place. The court, in commenting upon the amount of this verdict, said: "The practice of surgery is indispensable to the community, and while damages should be paid for negligence and carelessness, surgeons should not be deterred from the pursuit of their profession by intemperate and extravagant verdicts. The compensation to surgeons in the country is small in comparison with what is paid in cities for similar services, and an error of judgment is visited with severe penalty, which takes from one a large share of the surplus earnings of a long life." The court expressed the opinion that the jury must have been actuated "by some undue influence" in assessing the amount of damages; they expressed great reluctance, however, to interfering, and therefore stated that the verdict might stand if the plaintiff would remit five hundred dollars of the amount assessed.

It is perhaps proper to say that this case arose in Maine, and was tried in 1848.

For the improper treatment of an eye, from which loss of sight in that eye resulted, a Missouri jury gave a verdict of $362.75,† evidently a compromise verdict.

For the failure of a physician to discover and repair a serious rupture of the perinæum a Maine jury assessed damages at four hundred and fifty dollars.‡ And for improper uterine treatment, whereby the neck of the womb became closed, entailing much suffering and considerable expense, a Wisconsin jury assessed damages at three hundred and fifty dollars.

Illustrations: Exemplary Damages.—Upon the question of exemplary damages, the case of Brooke *vs.* Clark # is instructive. In this case the attending physician tied a ligature around the child's penis, instead of the umbilical cord, at his birth, whereby the glans of the penis came entirely off.

The facts may probably be best gathered from the evidence of the child's grandmother, which was as follows: "Dr. —— was the attending physician. He was standing at the foot of the bed and received the child from its mother. Before receiving the child from beneath the bedclothes he tied one cord or ligature, and then removed the cover, tied the second ligature, and cut the umbilical cord, when the child was by Dr. —— handed to the witness, who wrapped it in a blanket and sat by the stove trying to quiet it. When the first ligature was tied the child cried out like it was hurt, and continued to cry for about an hour. The doctor then took the child in his lap and examined it, and said the string had slipped off the navel cord. He asked for another string, which I gave him. I had given him one at his request before the child was born; both were common wrapping twine. Mrs. C. assisted Dr. ——, and he tied a string on the navel cord and returned the child to me, and I washed and dressed it and cared for it until morning. The child had spells of crying through the night; all the dressing that was done next day was changing its diaper, and that was done by me.

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* Barns *vs.* Means, 82 Ill., 379.

† Wood *vs.* Clapp, 4 Sneed (Tenn.), 65.

‡ Smothers *vs.* Hanks, 34 Ia., 287.

Teft *vs.* Wilcox, 6 Kan., 57.

‖ Kelsey *vs.* Hay, 84 Ind., 189.

^ Quinn *vs.* Higgins, 63 Wis., 664.

◊ Williams *vs.* Poppleton, 3 Oregon, 139.

* Howard *vs.* Grover, 28 Me., 97.

† McMurdock *vs.* Kimberlin, 23 Mo. App., 523.

‡ Lewis *vs.* Dwinnell, 84 Me., 497.

Brooke *vs.* Clark, 57 Tex., 105.

When washing the child next morning I found a string hanging down, and, taking hold of it, I found it was tied to the child's penis; it was a part of the same cord witness gave to Dr. —— the night before. I had charge of the child at night. When Dr. —— came in I showed him what he had done, and he said it was probably owing to Mrs. C. being excited and holding up the wrong thing for him to tie. There was but one string around the navel cord when I dressed the child. There was no string tied after the child was dressed; no one had the child before it was dressed but Dr. —— and myself." Upon the trial of the case the jury fixed the damages at five thousand five hundred dollars.

In commenting upon the propriety of exemplary damages in this case Justice Gould said: "The criminal indifference of the defendant to results was a fact which the jury were at liberty to infer from the gross mistake which he either made or permitted to be made, and the grievous injury which was liable to result and did result therefrom. If there was other evidence tending to negative any wrong intent or actual indifference on his part, still the existence or non-existence of such criminal indifference was a question of fact for the jury, and was rightly submitted to them. If the conduct of the defendant in the discharge of his duty as accoucheur was so grossly negligent as to raise the presumption of his criminal indifference to results, we very greatly doubt whether it should avail to exempt him from exemplary damages for him to show that he had no bad motive, and that he acted otherwise in a manner tending to show that he was not, at heart, indifferent. Where the act is so grossly negligent as to raise the presumption of indifference, evidence that in other matters connected therewith he had shown due care, and that actual indifference would have been in fact indifference to his own interest, should, we think, not be allowed for any other purpose than to be considered by the jury in fixing the amount of exemplary damages."

It is believed that in this case the court expresses the true rule governing exemplary damages. The question is, however, one upon which there is conflict of authority. In an earlier Michigan case the court expresses the opinion that when the evidence shows no evil motive in the commission of an act, the jury can not give exemplary damages; and this opinion was expressed in the face of evidence sufficient, to use the language of the court, "to show such a total want of skill, and such a degree of carelessness, as would in law make the defendant below guilty of manslaughter." * The court in this case also expressed sentiments upon other phases of the question of damages which have not been approved by the wisdom of recent years, and it may reasonably be doubted that the law as expressed therein relative to exemplary damages will be recognized in future decisions as the correct doctrine.

Judgment for Plaintiff Bars Action for Subsequently Accruing Damages.—It has been shown that the jury, in assessing damages, may properly consider the effect of the injury upon the plaintiff's capacity to earn money in the future; also the future pain and anguish, both physical and mental, that will necessarily or naturally result therefrom; in other words, the plaintiff's cause of action includes the right to recover for damages past, present, and future. The law will not tolerate a multiplicity of suits, but always compels a party litigating to enforce his whole right in a single suit, when the right is of such a nature as to render that possible; therefore if, in a suit against a physician for malpractice, the plaintiff fails, ignorantly or inadvertently, to prove future damages, and a judgment is entered in his favor against the physician for past and present damages only, such judgment will be a complete bar to another action brought for the recovery of damages resulting subsequently to the time of the first judgment.*

(*To be continued.*)

Pith of Current Literature.

Splenectomy for Rupture.—Mr. George Heaton, F. R. C. S. (*British Medical Journal*, August 19th), in a paper on this subject read before the British Medical Association, thinks that from a study of seven cases recorded in the paper we are justified in arriving at the following conclusions: 1. That a marked leucocytosis follows removal of the spleen in these cases. The leucocytosis follows immediately after removal, and continues gradually to decline; but it exists in a less degree for six months or more. 2. That in the leucocytosis the various forms of leucocytes are increased in number in various proportions, and do not bear the same ratio to each other as in normal blood. 3. That the anæmia produced by the accident is very slowly recovered from after removal of the spleen. 4. That in a certain number of cases (three out of seven) the removal of the organ is followed at an interval of from ten days to three weeks by a train of symptoms characterized by pyrexia, wasting, extreme weakness, anæmia, frequent pulse, pallor, thirst, and headache, which last for a varying period and are slowly recovered from. 5. That the external lymphatic glands undergo enlargement and in some cases a marked hypertrophy.

The Ætiology of Night Terrors in Children.—Dr. E. Graham Little (*British Medical Journal*, August 19th), as the result of an examination of thirty cases, in a paper presented to the British Medical Association on this subject, draws the following deductions: 1. Night terrors are in the great majority of cases caused by disorders productive of moderate but prolonged dyspnœa. 2. A preponderating number of cases are found in rheumatic subjects with early heart disease. 3. A considerable proportion of cases are due to obstruction of the nasal cavities and fauces. 4. Digestive disturbances do not play the important part in causation that is often assigned to them. 5. The evidence for their causal connection with epilepsy or allied neuroses is scanty. 6. The attacks occur in the subconscious stage of early sleep and are confined to young children under puberty.

Uterine Tuberculosis.—Vassmer (*Archiv für Gynäkologie*, Band lvii, Heft 2, 1899; *University Medical Magazine*, September) believes that tuberculosis of the uterus is of considerable clinical importance, since it is observed quite frequently. The six cases he reports were found at Runge's clinic within a space of ten months. From a study of these cases and those to be found in the literature he classifies the pathological anatomy and the clinical characteristics of the disease. All of the forms of tuberculosis which are described as occurring in the cervix (disseminated miliary, endometritis caseosa, and ulcerative endometritis), except the tuberculous new growths, were observed in the six cases. In most instances there was an associated tuberculosis of the annexa, there being isolated endometrial tuberculosis in only one case. Amenorrhœa was a characteristic symptom in all cases where the endometrium was found extensively diseased, and metrorrhagia and menorrhagia when the disease was not advanced. In four cases the diagnosis was made by the microscopical examination of tissue removed by the curette. In the cases of isolated and advanced tuberculosis reported many curettements did not suffice to cure the disease, but when mild, there was always a marked improvement. The possibility of there developing a miliary tuberculosis after conception, abortion, or labor, also the possibility of infection being carried from the placenta (which can no longer be doubted), determines the treatment to be a radical one (hysterectomy) when the patient is in the period of sexual activity. The presence of pregnancy in a tuberculous uterus must always be looked upon as a very serious complication.

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* Hyatt *vs.* Adams, 16 Mich., 180.

* Howell *vs.* Goodrich, 69 Ill., 556.

Extrarenal Capsule in Eye Diseases.—Dr. W. H. Bates (*Archives of Ophthalmology,* May), who first called attention to this subject in the *New York Medical Journal* for May 16, 1896, says that the aqueous extract of the suprarenal capsule is a powerful astringent. When a drop of the aqueous solution is instilled into an inflamed eye, the conjunctiva of the globe and lids is whitened in an average case in one minute. The effect is very decided. In mild cases the whitening may be more than normal. In severe cases of congestion or inflammation the eye is whitened to an appreciable degree. No case has been found in which the extract did not act. The astringent effect is increased by repeated instillations or by the use of a stronger solution. The cause of the redness has no effect on the result. An eye irritated by a foreign body on the cornea can be promptly whitened by the extract, as well as eyes inflamed from local infection or as a complication of general disease. The effect is usually temporary. In most cases after half an hour the eye looks as it did before the extract was used. The extract is not irritating. It generally produces a cooling sensation in the eye. It has no effect on the nervous system directly. The pupil is not contracted or dilated by it, and the accommodation is never affected. The extract has no anæsthetic property, and when pain is relieved by its use the benefit comes from the lessened congestion produced by the extract. A tolerance is never acquired; one patient used the extract daily for six months, and the eye was whitened temporarily by it at the end of that time as in the beginning. No secondary effect was observed; inflamed eyes do not have an increase of congestion or pain after the effect of the extract has worn off. The suprarenal extract does not cause desquamation of the corneal epithelium in normal or inflamed eyes in his experience. Ten experiments were undertaken to determine this with normal eyes in which the suprarenal extract was instilled at short intervals for three hours and no desquamation followed. Five cases with purulent keratitis were subjected to the action of the extract at frequent intervals for one hour without desquamation. A thirty-per-cent. solution did not cause desquamation of the corneal epithelium in a normal eye after one hour's use. The hypodermic administration of the extract is very painful.

It was observed that the instillation of the suprarenal extract into the eye had an effect on the general circulation as well. Therefore it was necessary to learn what pathological conditions contraindicated the use of the extract. An extensive series of observations showed that the extract might be instilled with safety in the eye in advanced stages of organic heart disease, pneumonia, nephritis, and in other serious conditions. Incidentally it was discovered to be an ideal heart tonic. The author was the first to publish its use as a heart stimulant in various forms of heart disease (*Medical Record,* October 8, 1898).

The aqueous solution is prepared as follows: Five grains of the dried and pulverized gland of the sheep are mixed with one drachm of water. The mixture stands five minutes and is then filtered. The filtrate contains about one per cent. of the extract. A solution of thirty-three per cent. can be obtained. It may be sterilized by heat or preserved at a low temperature. It can not be mixed with antiseptics, preservatives, or with any other substances without impairing its astringent property in the eye. It is best to prepare it freshly when needed. The dried and pulverized suprarenal capsule keeps indefinitely. It can be obtained from Armour & Co., Chicago, Illinois.

The solution when properly prepared is of a light brown color. One drop in a normal eye should whiten the caruncle more than normal in less than one minute.

The extract is very soluble in water, insoluble in strong alcohol, chloroform, and ether. When dried it is of a light yellow color.

Oliver and Schäfer (*Journal of Physiology,* 1895) find that the extract increases the tone of all muscular tissue by direct action. When the suprarenal capsule is removed, the heart and muscular system generally are weakened, with great want of tone in the vascular system. The author next records cases treated with the extract. Acute conjunctivitis was cured by its use, but in chronic conjunctivitis the relief was only temporary. Purulent conjunctivitis and trachoma were benefited, but not cured. Keratitis, iritis, and dacryocystitis needed other remedies in addition. The drug, says the author, is only astringent and not antiseptic. It has no effect on diseased bone.

The astringent property of the extract is invaluable, distinguishing between strictures of the nasal duct, due to swelling or inflammation of its mucous membrane, and impervious organic strictures. In the former, the extract finds it way into the nose when syringed into the sac through the punctum, and the stricture can be cured by treatment without operation; in the latter, an impervious stricture is usually present when the extract fails to find its way into the nose after repeated trials.

Short operations on normal eyes are usually done painlessly with cocaine alone. But in nervous people, inflamed eyes, eyes congested after recent operations, prolonged operations, and in bloody operations cocaine does not usually secure complete anæsthesia. In these cases the extract is of great service.

In a number of cases the absence of reaction after operations on the eye muscles when the extract was used was noted.

For cataract extraction, cocaine is usually perfectly satisfactory in performing a painless operation, but exceptions occur. In a recent case after the section was completed, the patient complained that the eye was tender. It was impossible to touch the cornea without pain. Cocaine, four per cent., was instilled frequently for fifteen minutes without producing anæsthesia. The patient complained that the drops hurt. The patient had a bad heart and ether was objectionable. A few drops of the suprarenal extract were instilled. The patient's nerve seemed to return. Cocaine now produced anæsthesia, and the operation was finished in a few minutes. The author feels certain that he could not have extracted the lens and obtained good vision in this case without the extract.

The extract is valuable in the inflammatory cases of glaucoma in which ether is usually necessary to secure anæsthesia for iridectomy. The suprarenal extract lessens the congestion so that cocaine can act. In one case cocaine was instilled for half an hour without producing anæsthesia. A drop of suprarenal extract whitened the eye. The cocaine anæsthetized the eye immediately, and a painless iridectomy was completed in five minutes from the time the extract was instilled.

Among general uses of the extract, Mullen (*American Journal of Ophthalmology*, August, 1898) has reported painless and bloodless major operations on the nasal sæptum with cocaine and the extract. The ossicles and drum membrane have been removed without pain or hæmorrhage with the use of the extract (and cocaine). Swain (*New York Medical Journal*, December 24, 1898) finds that it reduces enlarged tonsils, besides whitening the nasal mucous membrane. Urethral strictures have been opened in the same manner as lacrymal strictures were benefited. Its power of reducing granulations in the eye and hastening repair has been observed also in the treatment of ulcers of the leg.

Dr. A. G. Aldrich (*Medical Standard*, September) indorses Dr. Bates's experience. He thus sums up his conclusions: 1. The extract of suprarenal capsule is one of the most powerful of vaso-constrictors, and is, in addition thereto, an erectile tissue contractor. 2. As such it allows a deeper and more perfect anæsthetic action from the local use of cocaine, enabling the surgeon to have highly anæsthetized surfaces and tissue for operation. 3. The ischæmia from such action is so profound as to act as a prolonged hæmostatic, giving thereby a clear field for operation, and preventing secondary hæmorrhage. 4. Its action can be depended upon in every case. It is in no way deleterious to tissues operated upon, nor does it interfere with aseptic healing.

Convulsions in Infancy.—Dr. A. M. Gossage and Dr. J. A. Coutts (*British Medical Journal*, August 1st to 19th), in an exhaustive paper on this subject read before the British Medical Association, arrive at the following conclusions: 1. The frequency of convulsions in infants has been vastly overrated. 2. The immediate danger of a fit has been overrated, while the danger as regards future neurotic manifestations has been underestimated. 3. The predisposing causes are of much more importance than the exciting causes; the slighter exciting causes will not produce convulsions except in predisposed infants.

Interscapulo-thoracic Amputation.—Mr. Mayo Robson, F. R. C. S. (*Lancet*, July 29th), records two cases of his own of this operation in both of which there was little or no shock, and rapid recovery ensued, the patient being out of bed in the second week with the wound healed by first intention. Mr. Robson points out that the elaborate details for incision and technique given by Berger and others are practically useless, inasmuch as the flaps must necessarily be taken from wherever unaffected skin is available. Mr. Robson's operations were undertaken in the first case for extensive recurrent sarcoma of the axilla, and in the second case for extensive tuberculous disease of the shoulder joint, scapula, and elbow, with osteomyelitis of the humerus. The flaps were taken in one case from the anterior, in the other from the posterior surface of the upper arm. For preventing loss of blood the limb to be removed was Esmarched and a tourniquet was applied at the middle of the arm so as to utilize all the blood in the arm to be removed, this being supplemented in the first case by exposure of the subclavian artery and vein and clamping them with large pressure forceps, and in the second case by pressure on these vessels above the clavicle by means of a well-padded forceps handle. During the course of the operation the vessels were caught in pressure forceps immediately on division and subsequently ligatured, the loss of blood in each case being trifling. As a pocket is necessarily left when the wound is closed the author found an advantage in draining it by means of a stab wound at the most dependent part, the tube being removed in thirty-six hours. The subsequent deformity, says Mr. Robson, is so great that apart from any risk in the operation itself it can only be justifiable where all other means of relief have been exhausted.

The operations in the two cases are described as follows:

In Case I, owing to the condition of the axilla and front of the deltoid, no regular operation could be done. The subclavian vessels were exposed, clamped, and then divided along with the brachial plexus above the clavicle and beyond the growth. The outer half of the clavicle, together with the arm and the scapula, were then removed, a flap of skin having first been dissected up from over the back of the deltoid and upper arm. There was very little loss of blood, as the vessels were seized immediately they were divided. The removal of the scapula was facilitated by an assistant rotating the arm and forcing it forward and outward. The wound was stitched up closely and a drainage tube was introduced through a stab wound. There was practically no shock from the operation, and the patient was up on the ninth day, the wound having healed by first intention.

In Case II ether was given and with the patient lying on his left side an incision was made, the flap being taken from the front of the upper arm. Bleeding was checked by pressure on the subclavian above the clavicle with forceps padded at the end with lint. The flap was first raised, taking only skin and superficial fascia, and the muscles were then divided down to the clavicle, which was divided by bone forceps. The axillary vessels were now clamped and divided. The other vessels were taken up with pressure forceps as they were cut and very little blood was lost. Then by rotating the arm the scapula was forced forward and outward, the muscles attaching it to the trunk were divided, and the limb was removed. The vessels were then tied and pressure was removed from the subclavian. One or two large glands were removed from the axilla. The wound, which had been contaminated with pus from the diseased part, was thoroughly washed with perchloride lotion. A drainage tube was inserted through the flap by a stab puncture in the postero-inferior part of the wound. The wound was then closed and a dressing was applied. The flap covered the wound readily without tension. The after-course was quite uneventful and the wound healed by first intention. The patient was up on the eleventh day. When seen four months later he had regained his old weight and color and was well in every respect.

Beri-Beri.—Dr. Albert S. Ashmead, late foreign medical director, Tokyo hospital, Japan (*University Medical Magazine*, September), says that in a recent issue of the *Sun* it was stated that beri-beri, a disease of the wet season of India, had broken out among the Filipinos of Cavite, and that there were two deaths a day from it. Dr. Ashmead, who says that he has treated thousands of cases of this disease, calls attention to a suggestion from himself published in the *University Medical Magazine* for May, 1896.

Dr. Ashmead then said that "Dr. Carreau, of Guadeloupe (*Contribution au traitement de la lèpre*, Pointe-à-Pitre, Guadeloupe, 1892), mentions the case of a Brazilian leper bitten by a rattlesnake. The man succumbed after twenty-four hours. It was observed when he was dead that all his lepromas were enfeebled. Dr. Carreau, attributing this effect to the methæmoglobinæmia produced by the venom, tried to imitate the intoxication in the case of a very sick leper. He gave him enormous doses of chlorate of potassium, a salt which increases rapidly the quantity of hæmoglobin of the blood, and may cause death by this same action. The patient swallowed forty-five grammes of this remedy in three doses, the highest being twenty grammes, in sixty hours. He presented the most pronounced symptoms of intoxication; his blood showed the spectroscopic bands of hæmoglobin and methæmoglobin. During some days he hovered between life and death. He recovered, however, from the shock, and felt a very distinct improvement in all the cutaneous surface attacked; the leonine face smoothed down, the skin, which had lost all elasticity, could again form folds. The treatment continued eight days."

Dr. Ashmead suggested that a remedy which had such an effect—that is, to increase so rapidly the hæmoglobin of the blood—might also be applied to the treatment of beri-beri, a disease whose principal characteristic was the diminution of the hæmoglobin.

The author adds a few words generally about this ætiologically mysterious disease. "Beri-beri" means "goat's gait" or "sheep's run," and has reference to the dropping of the toes, or *pes equinus*, and the labored lifting of the leg and thrusting of it forward. These symptoms, he says, are due to hæmoglobinæmic paralysis of the peripheral nerves, arising, in his opinion, from carbonic poisoning.

In Japan, and the Far East generally, beri-beri is caused by the fumes of charcoal, the fuel of the stoves. In the wet season these fumes are held down by the moisture of the air. In the dry season there is no beri-beri at all, the dry northwest winds dissipating the gases. The author has examined a number of beri-beri ships in the harbor of New York, mostly from Dutch India and the Philippines, and in every instance the cargo was such as would produce an emanation of carbonic gases—graphite, pure carbon, from Colombo, Ceylon; burned coffee, from Java; fermenting third-grade sugar and crude sugar without fermentation—that is, undetected fermentation—from Iloilo, and wet grain and hemp cargoes. He has never seen or heard of such an afflicted ship that was not carrying a carbon-producing cargo. As to the theory propounded by the Dutch East Indian doctors, that white rice (so largely eaten by all East Asiatics), being infected with a micro-organism of beri-beri, is the means of propagation of the disease, he says that rice is always eaten well cooked (as the bread of the East), and that therefore a micro-organism, if it existed in white rice, would be destroyed, and consequently could not have anything to do with beri-beri. He adds that for many years Japanese rice has been sold in all American department stores, and, he need hardly say, is imported uncooked. If it contained the "microbe of beri-beri," that microbe would have been rampant among us for many years. We have never had beri-beri in New York except on ships which had contracted the disease during their voyage.

Eye Diseases and Nervous Breakdown.—Dr. George M. Gould (*Journal of the American Medical Association*, September 9th) says that there are very many thousands of patients systematically treated for functional diseases of the body that are due to diseases of the eyes.

Out of perhaps a hundred classes the author chooses one small group of cases illustrative of the general thesis. This group is composed of "nervous" hysterical patients, usually women, neurasthenics, whom, when we do not know what is the matter with them, and when we can relieve them by no other means, we call "nervous breakdowns," and order for them the rest cure. Modern medical practice is made up in too large degree of this sort of work in the dark—with patients whose diseases we may name but can not thoroughly diagnosticate, and the treatment of which we order with a sickening feeling in our own hearts that we are blind and ignorant of any clear reason for our doing. In no class of cases is there such great reason to look after the eyes as in this class of hysterics and neurasthenics, which by a morbid philology we allow to be called "nervous." Dr. Gould is told that Dr. Spivak, of Denver, has advanced the theory that hyperchlorhydria and other functional gastric troubles are the principal affections relieved by the rest cure. To this he would add that nothing is more certain in his mind than that such functional gastric derangements are frequently the direct result of eye strain.

The author next records three cases in all of which asymmetrical astigmatism was found in conjunction with the symptoms of nervous breakdown, functional digestive troubles, headaches, anæmia, and other nervous phenomena. Proper glasses corrected the troubles, but for some reason glasses were discarded as the troubles began to disappear. Then followed a return of the symptoms, the prescription of the rest cure, with relief consequent on enforced idleness, dissipated, however, the moment the rest cure was abandoned. The only remedy in such cases, according to Dr. Gould, is the adoption of proper glasses and their continued use. The author concludes: "I should be sorry to be misunderstood. I by no means say or believe that in every case, or that in the majority of cases requiring the rest cure, the origin or chief factor of the disease is eye strain. I do not say or believe that the rest cure is unnecessary even in cases of reflex ocular neuroses. What I do believe and wish to emphasize is: 1. It is positively criminal negligence to ignore eye strain in any case requiring the rest-cure treatment. 2. It is not enough to know that the oculist has examined the eyes, especially if it has been done without a mydriatic. 3. To mydriaticize a pair of eyes for a month or two would often do more good, would certainly be more logical, would be an infinitely better means of differential diagnosis in obscure nerve trouble and functional nutritional diseases than to put the patient's body to bed for the same time."

Proceedings of Societies.

SOCIETY OF THE ALUMNI OF THE CITY (CHARITY) HOSPITAL.

Meeting of May 10, 1899.

The President, Dr. William L. Stowell, in the Chair.

(*Concluded from page 428.*)

The Early Recognition of Kidney Disease.—Dr. T. H. Rockwell read a paper on this subject. (See page 446.)

Dr. Baner said that he had been particularly interested in Dr. Rockwell's paper. It had seemed to him that in what Dr. Rockwell had said about the microscopical examination he had perhaps laid too much stress on the finding of casts and not enough on the other appearances. It should be remembered that while every inflammation of the kidney was (from the strict pathological standpoint) a diffuse nephritis, there were many cases in which the inflammation was so largely confined to the connective-tissue stroma that the exudative process played a very unimportant part, and that, therefore, casts were extremely rare or altogether absent. It was quite possible for these cases of interstitial nephritis to reach an advanced stage without any casts being discoverable even with careful search. In such urine, however, there would be found, as a rule, characteristic renal epithelia which were of importance, and familiarity with them was of great assistance in making a diagnosis. Unfortunately, these bodies were only too frequently looked upon as leucocytes, which they did resemble unless examined with some care. Though they were irregularly cuboidal while *in situ* in the tubules of the kidney, they became quite spherical when free in the urine and relieved of the pressure of their fellow cells. They were, however, on the average, about a third larger than the pus corpuscles, and as a rule with a single nucleus. Such epithelia were not found in normal urine, as were the squamous epithelia of the lower parts of the urinary tract, but were shed when the underlying connective tissue became inflamed, as it did in interstitial nephritis. The only epithelia found in urine which really resembled the renal epithelia were those from an inflamed prostate or Bartholinian gland and those from the ureters. All of these, however, were somewhat larger on the average than the kidney cells, and, taken in conjunction with the other chemical and microscopical features of the urine and with the clinical history, the diagnosis was not hard.

The speaker presented a specimen of urine from a case that he had seen that afternoon. The patient was a woman twenty-eight years of age, who complained that for several months she had been feeling badly and had suffered from headache almost daily. She was anæmic and slightly puffy under the eyes. The urine showed fully one half per cent. albumin (Esbach), and under the microscope were to be seen pus corpuscles and convoluted tubule epithelia containing fat globules. In four slides examined (without mechanical stage) no casts had been found—nor had they seemed necessary to make a positive diagnosis of chronic interstitial nephritis. The speaker thought, too, that the significance of connective tissue in the urine had not received the attention it deserved. In some cases of chronic interstitial nephritis it was at times possible to detect small shreds of connective tissue where casts could not be found at all or only with great difficulty. Such shreds might not help much with the diagnosis, but they did indicate the severity of the lesion. It seemed odd that the books had not given more attention to it. One heard of connective tissue in the sputum, but in the urine, where it was as frequently found, it was rarely mentioned. In certain conditions of the urinary tract it was possible to find quite large pieces. It was his opinion that even insurance men failed to realize what could be accomplished by careful microscopic examination of urine, and were inclined to make their progress along the line of chemical work, such as the differentiating of the various albumins, rather than in trying to understand more fully the various microscopical appearances. There was room in this direction for some good work.

Dr. Henry H. Schroeder said they were fortunate in having Dr. Rockwell present to speak upon this subject. One with such extended experience and in his position had even a better chance for studying the first signs of kidney disease than the general practitioner, because the first symptoms, as a rule, for which the patient sought advice, were changes in the condition of the heart and pulse; but preceding this there was almost invariably a change in the urine which, usually, was discovered accidentally. For the purpose of illustrating the frequency of albuminuria, Dr. Schroeder had looked over his records and found that about forty per cent. of his declinations and postponements had been for albuminuria pure and simple. No one supposed that all these cases were doomed to Bright's disease. As a matter of fact, he had since accepted many of them for insurance, the albuminuria having disappeared. The point was to find out whether the albuminuria was temporary or persistent; for the latter cases were in danger, and ought to be under the careful supervision of a physician who would insist upon regular habits, appropriate clothing, and abstinence from excesses in diet and stimulants, and who would see that all the functions were properly attended to, and that the patient refrained from overwork and violent exercise. He did not believe that albuminuria could ever be called physiological any more than we could designate the so-called uric-acid diathesis or the heart murmur of anæmia as such. Albuminuria, like many other abnormal conditions, might exist for more or less extended periods of time, and then disappear permanently, leaving the individual practically healthy; but while it lasted the patient could not strictly be said to be in a normal condition. At the same time, however, while observing every precaution, we should be guarded in our prognosis in these cases, for we were not justified in fully establishing a diagnosis of Bright's disease until we perceived corroborative signs. A great many persons had albuminuria which recurred at certain times in the day—the so-called cyclical albuminuria; in others, the albuminuria might be due to unusual exercise, dietetic influences, adolescence, or irritation of the lining membrane of the urinary tract. We could not distinguish the mild from the severe form by the amount of albumin, for in many instances of persistent albuminuria, even when the diagnosis of Bright's disease was positive, only a small quantity of albumin was present, whereas in a considerable number of cases of the transient form the amount was large. After the albuminuria had lasted a year or more, the prospect of its disappearance became very doubtful indeed. It was not uncommon to find an individual in whom albuminuria had persisted for years, without, apparently, any evil consequence. This fact could not be said to militate against the opinion that albuminuria was a condition of disease any more than the fact that patients with a mitral or even an aortic insufficiency, who may have lived for a long time without apparent inconvenience, were in a normal condition. He mentioned the case of a woman, at that time dying, who had contracted Bright's disease during pregnancy sixteen years previously. During this time her urine had been loaded with albumin and casts. Why, then, might not a persistent albuminuria, lasting for years, be the danger signal during all that time of a condition ready at any moment to develop into Bright's disease from some exciting cause? Albuminuria with urine of a persistent low specific gravity was a bad sign, and when albumin in large or small amount was associated with a diminished amount of urea, even though casts were absent, we might safely make a diagnosis of Bright's disease. The question of age was important, for if the patient was over forty years of age the albuminuria was a great deal more significant and less likely to disappear than in a younger person. When it occurred in the very corpulent it was apt to be permanent, even when the individual had not reached middle age. It was unnecessary to say that an albuminuric patient addicted to the use of alcohol was in more danger than others. Albuminuric patients did not stand intercurrent diseases at all well, and an acute trouble like pneumonia, or typhoid, or a surgical operation, or an accident often seemed to start up a condition that had long been lying dormant in the kidneys, and resulted fatally. The speaker had had the same experience as Dr. Rockwell with certificates, and attributed the ease with which these statements were obtained to two things: First, the attending physician was anxious not to alarm his patient, and persuaded him that there was nothing wrong with his urine; this was very injudicious, for the patient ought to be impressed with the fact that his condition might lead to something more serious, and that he should keep himself under the care of his doctor. Second, some of these certificates were undoubtedly the result of faulty or careless methods of urinary analysis. The well-known heat and nitric-acid and Heller's tests were the most satisfactory. In analyzing the urine the main points to be observed were care, clean apparatus, and freeing of the urine from precipitates. Otherwise, small amounts of albumin escaped detection. It was not uncommon to see test tubes in the hands of a physician which were practically opaque. The tube that was employed for the sugar test should never be used for albumin. The outside of the tube should always be thoroughly dried before applying the heat, as even a small quantity of moisture left a deposit of salts sufficient to interfere with the transparency of the glass. It was the custom now to attempt to differentiate sero-albumin from nucleo-albumin, and we seemed fairly able to do so. As to whether nucleo-albumin was significant of serious disease or not, was still a matter of opinion. If we could always ascertain the exact source of this substance the question would be easier to solve, for it was manifest to all that it made a great deal of difference whether it came from the neighborhood of the prostate or from the pelvis of the kidney. The presence of epithelial cells was of little practical value, for, notwithstanding the statements in the text-books, no one could absolutely distinguish the epithelium of one part of the urinary tract from that of another. The speaker could believe that nucleoproteid was of comparatively little importance if he had not happened to have found renal casts associated with it in quite a number of instances. For this reason he was unwilling to accept these cases for insurance until a careful microscopical examination had convinced him that casts were absent, and even then, only when the nucleoproteid was small in quantity and the applicant was under middle age. If he had failed to emphasize the value of the microscope sufficiently, it was because he had tried to confine his remarks strictly to the symptoms of the incipient stage of Bright's. He thought that albuminuria was the chief evidence of the incipient stage, and that casts did not occur, as a rule, until later in the disease.

Dr. **Leszynsky** said he agreed with the previous speaker that physicians as a rule were careless in the examination of the urine. They looked at it, tested it for albumin hurriedly, saw if it was acid with a piece of litmus paper, and if they found no albumin they said it was normal. A great many never made a microscopical examination at all. He thought the paper one of the most instructive he had heard in a medical society for several years.

Dr. A. **Rupp** said he wished to say only a few words with reference to the lack of respect and exactitude that had been indulged in by the insurance specialists in accusing general practitioners of neglect and carelessness in the examination of urine. Individual instances of carelessness and neglect did not justify the condemnation of a class. Insurance examiners had the interests of their employers, the companies, to look after, and the practitioner was obliged to secure mental and physical welfare and comfort for his patient. These different ends of the two classes of practitioners did not always dovetail; but this did not justify insurance experts in making the sweeping assertions they did, to the disadvantage of the general practitioner. All general practitioners were not simpletons and incompetents.

Small amounts of albumin in the urine might not signify much in so far as the general health was concerned, or even possibly a happy and long life. The case of a man in the middle fifties was instanced as one in point. This man when about thirty years old had an attack of acute cystitis following a cold and distention of the bladder, and since that time his urine had shown traces of albumin. Six or seven years ago he was rejected by insurance experts. He is apparently as well to-day as he was six years ago. Six years ago he was advised by a urinary expert never to live in New York during the fall and winter, but to seek a warm climate. He had not taken the expert's advice, and apparently he was no worse off for not going South as advised. Dr. Rupp would not say that this slight amount of albumin in this man's urine was of no consequence, but he mentioned the case merely to demonstrate that slight albuminuria might coexist with apparent good health and mental vigor, and for many years, even after the middle period of life.

The PRESIDENT said that a number of years before he had examined large quantities of urine in connection with dispensary work, kept records of hundreds of cases, and considered that he had become reasonably expert at it. Out of large numbers of specimens examined many failed to bear out kidney disease, although the diagnosis of kidney disease had been made, and where he found the presence of albumin or of a few casts, it was not always wise to make a positive diagnosis. The casts simply helped out, because many specimens were sent in with a definite diagnosis of nephritis. On the other hand, he sometimes made a clinical diagnosis of Bright's disease well advanced, when the urine did not show it clearly. The subject seemed to have drifted largely to the early manifestations as seen in insurance work, but he had hoped some one would speak of the albuminuria in pregnancy, because it had sometimes been thought to be physiological, simply due to pressure. On the other hand, it might lead to a septic condition with renal complications. He referred to a case of pregnancy he attended about two months ago in which there was two per cent. of albumin, which appeared for the first time only a week before delivery, and disappeared absolutely two days after delivery, so that for a number of days the kidneys were overwhelmed with albumin, which disappeared as rapidly as any physiological act could take place, and had not recurred. It showed that the kidneys could excrete albumin in very large quantity without any probability of there being organic lesion in them or extensive degeneration.

Book Notices.

The Gross and Minute Anatomy of the Central Nervous System. By H. C. GORDINIER, M. D., Professor of Physiology and of the Anatomy of the Nervous System in the Albany Medical College, etc. With Forty-eight Full-page Plates and Two Hundred and Thirteen Other Illustrations, many of which are printed in Colors, a Large Number being from Original Sources. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xxvi–17 to 589. [Price, $6.]

THE author's object has been to prepare a text-book which shall meet the needs of medical students and at the same time be of service to clinicians in associating symptoms of nervous disease with anatomical facts. Beginning with the histology of the nervous system, there follow in systematic order chapters on the spinal cord, the medulla oblongata, the cerebellum, and the midbrain and third ventricle regions. Five chapters are devoted to the brain, its membranes and blood-vessels, and the three final chapters treat of cerebral localization, of the embryology of the central nervous system, and of the technics of macroscopical and microscopical examination of the brain and spinal cord.

In view of the constant accessions to our knowledge of the anatomy of the central nervous system, the task which the author set himself is of considerable proportions. He has, however, carried it through successfully. It can not be said that the book is beyond criticism; but that can be said of but few books, and of none which treats of a subject in which an attractive theory may be demolished between the time of writing and that of going to press. Dr. Gordinier's production is what it essays to be—a practical and reliable guide for students, for clinicians, and, to a certain extent, for original investigators in the field. It is hardly large enough to go into the discussion of most questions, and consequently it perforce contains statements which are based on insufficient authority and may some day have to be modified. For example, it is stated that a neurone is a distinct anatomical unit, which is by no means proved; and that Gowers's tract is supposed to conduct cephalad impressions of heat and pain, a supposition for which the foundation is entirely inadequate. We note some imperfections in the use of terms, but they become very insignificant when compared with the really great merit of the work. For it represents much painstaking research and bears also the stamp of original investigation. It is unusually well written, and the illustrations, many of which are original, are well chosen. It is destined to take its place among the standard books of its class.

On the Relation of the Nervous System to Disease and Disorder in the Viscera. Being the Morison Lectures delivered before the Royal College of Physicians in Edinburgh in 1897 and 1898. By ALEXANDER MORISON, M. D. (Edin.), Physician in Charge of Out-patients to the Great Northern Central Hospital and the Children's Hospital, Paddington Green, etc. Edinburgh and London: Young J. Pentland, 1899. Pp. xiv–128.

THESE lectures, which have already been published in full in the *Edinburgh Medical Journal,* were delivered by the grandson of the founder of the lectureship. They treat of an obscure and difficult subject. They are divided into the anatomy of visceral innervation, the physiology of visceral innervation, the pathology of visceral innervation, the disorders of visceral sensibility, and motion, body, and mind, and close with an appendix on the innervation of the intracranial vessels. The newer methods of staining nervous tissue have given us a very much keener insight into the finer anatomy of the sympathetic system than we had formerly, and have, to a certain extent, increased our knowledge of its physiology. The author has well summarized the advances made along these lines and has brought out as far as possible their application to the pathology of the sympathetic. He recognizes the present limitations of the subject, and is commendably conservative in the expression of his views. He is certainly justified in the opinion that further progress in technical methods will make this a fruitful field of investigation. The lectures are suggestive and interesting.

Syphilitic Diseases of the Spinal Cord. By R. T. WILLIAMSON, M. D. Lond., M. R. C. P., Medical Registrar, Manchester Royal Infirmary, etc. With Illustrations and Four Colored Plates. Manchester: Sherratt & Hughes, 1899. Pp. 127.

THIS is a very satisfactory dissertation on syphilitic diseases of the spinal cord. The author presents fully and clearly such facts as are accessible elsewhere, and he also enriches the subject materially by original contributions.

The pathological reports are very good. One of them in particular is of great value, as it throws much light on the obscure points of primary syphilitic disease of the arteries of the spinal cord and sudden paraplegia.

The publishers have hardly done their author justice. The illustrations are poor and the paper and binding not of the best.

A Text-book of Mental Diseases. With Special Reference to the Pathological Aspects of Insanity. By W. Bevan Lewis, L. R. C. P. (Lond.), M. R. C. S. (Eng.), Medical Director, West Riding Asylum, Wakefield, etc. Second Edition, thoroughly revised, enlarged, and in part rewritten. With Illustrations in the Text, Charts, and Twenty-six Lithographed Plates. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xxvi–609. [Price, $7.]

Dr. Lewis's book won its reputation ten years ago as being one of the earliest of treatises on mental diseases in English which endeavored to refer the symptoms of insanity to a definite anatomical basis.

It stood well as a clinical treatise also, but its special claim to popularity was its pathological and anatomical sections. In this, the second edition, the author has followed out his original plan. More than a third of the volume is given over to anatomy and pathology, and these subjects in this edition have been considerably added to, as was necessary by reason of the advances recently made. The book is especially valuable to those engaged in institution work and to those having the opportunity of seeing the pathological side of insanity.

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment and Drugs. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by Judson Daland, M. D. (Univ. of Pa.), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc. Volume I. Ninth Series, 1899. Philadelphia: J. B. Lippincott Company, 1899. Pp. ix–303.

This series of *International Clinics* is opened by Dr. H. C. Wood with an article on cold as an antipyretic, which, though short, is written in the usual clear and concise style of the author, and consists in a brief summary of the various means of applying cold to reduce febrile temperature. Eulenburg, of Berlin, reviews the treatment of tabes dorsalis in a most interesting way, for he has seen the gradual development of present methods. He speaks highly of Fränkel's method of overcoming the ataxia by means of regulated exercises, and gives a warning against too much reliance on specific treatment. Among other articles of interest are Fournier's on the frequency of unsuspected syphilis, the continuation of Grancher's lectures on the treatment of tuberculosis, and the conclusion of Rosenheim's lectures on the treatment of chronic constipation.

BOOKS, ETC., RECEIVED.

Minor Surgery and Bandaging; including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Amputations, Excisions, and Resections, Intestinal Anastomosis, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By Henry R. Wharton, M. D., Demonstrator of Surgery in the University of Pennsylvania, etc. Fourth Edition, thoroughly revised and enlarged, with Five Hundred and Two Illustrations. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. ix–594. [Price, $3.]

A Compend of the Diseases of the Eye and Refraction; including Treatment and Surgery. By George M. Gould, A. M., M. D., formerly Ophthalmologist to the Philadelphia Hospital, etc., and Walter L. Pyle, A. M., M. D., Assistant Surgeon to the Wills Eye Hospital, Philadelphia, etc. Second Edition, revised and enlarged. One Hundred and Nine Illustrations, Several of which are in Colors. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xii–13 to 295. [Price, 80 cents.]

Eighteenth Annual Report of the State Board of Health of New York. Maps accompanying State Board of Health. 1898.

Report of the Trustees of the Newport Hospital presented to the Corporation at its Twenty-sixth Annual Meeting, July 11, 1899.

The Modern Use of Synthetics. By Reynold Webb Wilcox, M. D. [Reprinted from the *Medical Fortnightly.*]

The Record of Four Years (1895–1899) in an Exclusively Electro-therapeutic Clinic. By Margaret A. Cleaves, M. D.

A Study of Some Conditions that lead to Fibroid Changes. By Willis S. Anderson, M. D., of Detroit. [Reprinted from the *Physician and Surgeon.*]

Miscellany.

Curled Horsehair as a Substitute for the Scrubbing Brush.—W. S. Forbes (*Pennsylvania Medical Journal*, July; *Medicine*, September) says that ordinary curled hair forms one of the best mechanical devices for cleansing the skin that has yet been discovered. In its preparation about three drachms of curled hair are employed, and this is easily shaped by the hands into a loose pad about the size of the hand. When desired, the flattened mass may be held together by stitching with sterilized silk, catgut, or other aseptic material, but this is optional. When once fashioned, it will hold its shape without change. It can not cut or tear the skin, and it is easily cleansed with boiling water before and after each surgical operation. A solution of bichloride of mercury, 1 to 100, and steam at 100° F. do not act upon it. It may be kept in alcohol after being sterilized, and is thus always ready for use. It is cheap and efficient, and is far superior to the scrubbing brush of tainted memory.

The Term "Typhoid Pneumonia."—Dr. Frank R. Smith (*Maryland Medical Journal*, September 2d) says that in view of the fact, first, that the majority of pneumonias occurring in the course of typhoid fever are not caused by Eberth's bacillus, but by the pneumococcus, and secondly that asthenic pneumonias with so-called typhoidal symptoms have nothing in common, so far as ætiology is concerned, with typhoid fever, it would seem advisable, with our present knowledge, to discard the term "typhoid pneumonia" as savoring too much of inaccuracy, especially since we are reminded by it of the wholly indefensible term "typho-malaria." For those rare cases in which it can be proved beyond doubt that the pneumonic process as well as the general typhoid infection are both due to the bacillus of Eberth we still have the term "pneumo-typhoid," the use of which, however, should be subject to these strict limitations. Accuracy in terminology, says the author, is the first step toward a reasonable therapy, and the ill results of calling conditions by wrong names must inevitably lead to a less clear-sighted management of them.

Not to be Beaten.—The *Indian Medical Record* for August 2d is responsible for the following druggist story: "A gentleman received a note from his lawyer which he was unable to decipher. On his way to his office he met a friend at the door of a chemist's shop. The friend, after vainly attempting to read the note, suggested that they step inside and hand it to the chemist without comment. The chemist, after studying it in silence for a few minutes, stepped behind the prescription case, and in a short time returned with a bottle of medicine, duly labeled, and bearing directions. When the gentleman saw his lawyer he was informed that the note was a notice for him to call at his office between one and four o'clock P. M. of the following day."

Human and Bovine Tuberculosis.—According to the *British Medical Journal* for September 2d, a special committee of the Cape Town branch of the British Medical Association has submitted a report on tuberculosis in South Africa. There appears to be a general consensus of opinion that the disease is on the increase there among human beings; while as a curious fact it is mentioned that medical and veterinary opinion is practically unanimous in declaring tuberculosis almost non-existent in cattle there.

A Nine-months-old Child as an Opium Habitué.—W. F. Boggess (*Archives of Pœdiatrics*, May, 1899; *Medicine*, September) reports a child nine months old, small, weighing only eight or nine pounds, but bright and well nourished. Six months before coming under observation the mother had begun administering laudanum for colic. The dose administered varied from four to twenty drops, and the daily quantity was from one to two drachms. While under the influence of the drug the infant was bright and apparently quite comfortable, but as soon as it was withdrawn there were pain and fretfulness. The drug was rapidly reduced in quantity, and the reduction was followed by a prompt recovery. The report is of interest from the fact that it is the earliest case of opium addiction on record, and also by the remarkable tolerance of the drug shown by so young a child.

"Imagino-therapy."—The *Maryland Medical Journal* for September 9th says in an editorial that all woman is (clinically) divided into four parts—blood, bowels, pelvic organs, and imagination. This is so well known to the profession that a simple statement of the truth suffices. The point at present urged is that the fact that an ailment is cured through the imagination does not prove that the ailment is imaginary. This second fact is not as familiar to the profession as the first; some may even be found to dispute it.

Through the imagination (as is well known) the arterioles of a sensitive woman will contract and relax, producing pallor or a becoming blush, according to the theme presented in her thought. In certain states of illness the whole cutaneous surface may flush and burn from the above cause, much to the distress of the patient, whose public life may be rendered miserable thereby.

As the vasomotor nerves of inward organs are probably subject to like impressions through the imagination, it is not unreasonable to suppose that acute or chronic congestive disorders of these organs may be greatly affected by this agency.

It is not wise that imagino-therapeutics, such as the use of hope, fear, expectation of relief, mental exhilaration, wonder, curiosity, should be pooh-poohed by physicians and left to the quacks.

A Proposed South African Post-graduate School.—According to the *British Medical Journal* for September 2d, a committee of the Cape Town branch of the British Medical Association is considering the formation of a post-graduate medical school in Cape Town.

A New Free Bath in Hoboken.—It is announced that Mr. Richard Stevens and his sister, Mrs. C. B. Alexander, are building a free public bath in Hoboken, and that it is expected to be ready for use by the 1st of October.

The Evolution of Dental Diseases.—In the *Dental Cosmos* for August, Dr. Charles H. Ward, in an exceedingly interesting paper entitled The Evolution of the Patient, read before the Seventh District Dental Society of the State of New York, traces in a most interesting manner the evolution of dental diseases as a consequence of the evolution of man himself. Commencing with the antiquity of man as established by palæontological researches, he follows the effect upon the teeth of his varied modes of living in the varied stages of his existence, the invention of weapons, the discovery of fire, the domestication of animals, and the gradual influences of civilization. He further considers the antiquity of the extraction of teeth, and reviews various tribal customs in which the teeth figure as trophies, badges, symbols, etc.

Yawning as a Hygienic Measure.—Lauder Brunton (*Quarterly Medical Journal*, January), in his inaugural address to the York Medical Society on Exercise and Overexercises, says: "For the development of the chest there is perhaps no exercise better than that which Nature has pointed out as a relief to fatigue—namely, yawning—for in this action the chest is expanded to the utmost both by the ordinary inspiratory muscles and by the accessory muscles connected with the arms. In cases where chest expansion is deficient, either from arrested growth in children or from disease of the respiratory passages or pleura, the movements of yawning repeated several times tends to increase the chest capacity. But this should be done where the air is clean and fresh and free from germs, because more air is drawn in and is drawn more deeply into the chest than in ordinary breathing, so there is a greater chance of microbes getting deeper into the lungs, if any should happen to be present in the air. Movements like those of yawning, though perhaps less extensive, occur when a skipping rope is used backward, and I do not think there is any better exercise for children with imperfect expansion of the chest than skipping backward. The movement of skipping forward is not nearly so good, as the inspiratory muscles are not used to the same extent, and the action tends rather to contract the chest than to expand it."

Original Communications.

DISPLACEMENTS OF THE HEART IN LATERAL CURVATURE.

A STUDY IN THERAPEUTICS.

By THOMAS E. SATTERTHWAITE, M. D.,
CONSULTING PHYSICIAN TO THE ORTHOPÆDIC HOSPITAL, ETC.

Displacements of the thoracic and abdominal viscera are natural sequences of lateral curvature, and inasmuch as the deformity is usually most marked in the dorsal region, it is the contents of the thorax that are apt to suffer most. In the early stages of the disease or in slight cases the alterations of position or of function in the thoracic organs may be inconsiderable, but in advanced degrees of the deformity unnatural positions of these viscera may so seriously affect their functions as to disturb both respiration and circulation.

The large experience of Adams * led him to say, in speaking of the effect of lateral curvature on the general health: "While no affection can possibly be more variable as to its general symptoms and its influence upon the health of the patient than lateral curvature of the spine," and while "no symptoms such as would interfere with the general health of the patient may be present, even up to the middle period of life, although the evil day is put off, it nevertheless arrives sooner or later, and the patient suffers from functional disturbance of the thoracic or abdominal organs to an extent which leads to the belief that serious disease of these organs exists."

In regard to the functional derangement of the thoracic organs, he further says: "In slight cases of lateral curvature of the spine, when associated with general debility and occurring in girls, it is by no means uncommon for the patient to suffer from palpitation of the heart, with a disposition to fainting, etc., with feeble and irregular pulse." Adams adds: "The opposite view, however, is generally taken by those who see but few cases of spinal curvature, and the enfeebled condition of the general health, together with the associated functional disturbances, are regarded as the primary and essential affection to which the spinal curvature is merely secondary; but," he continues, "in the more severe cases of lateral curvature of long standing, where the heart becomes displaced and to some extent, perhaps, embarrassed by the contraction and deformity of the chest, palpitation, with some irregularity in its action, may become a more prominent symptom and lead to the suspicion of the existence of heart disease." And Adams quotes John Shaw, of London, who stated that he "had been consulted by several patients who had been treated for disease of the heart, though all the symptoms were caused by distortion of the spine," and adds, "I have known several patients about the middle period of life, afflicted with severe spinal curvature, so impressed with the idea that they were suffering from disease of the heart that the highest medical authorities failed to remove such impression." And he concludes: "Many similar cases, and several in which the symptoms referable to the interference with the functions both of the heart and lungs have been much more severe, have been under my observation in hospital and private practice." As an illustration of the unnatural division of the thoracic cavity in lateral curvature, he alludes to a specimen in the collection of the Royal College of Surgeons in London, where the space between the bodies of the vertebræ and ribs was reduced to three fourths of an inch.

Bouvier * speaks of a case where the heart could scarcely find room for itself in the narrow space left by the lung, and in fact that it appeared forcibly applied to the thoracic wall. Bradford and Lovett † confirm these views by saying: "The lung in the convexity of the curve is compressed and flattened. The aorta is necessarily displaced. The heart is generally found displaced toward the concavity of the curve in severe cases."

These statements from well-known orthopædists, widely separated in locality and spheres of influence, go to show that there is a common belief in various parts of the world that lateral curvature tends to disturb the functions of heart and lungs.

Indeed, Adams appears to approve of Bouvier's statement that "individuals thus affected rarely live to old age and fall victims either to phthisis or heart disease." How far this is true I am unable to say, but I have seen a number of cases in which it seems to me that the curvature was the principal factor in determining cardiac and, associated with it, pulmonary disease. And conversely, I may add, I have seen improvement in the curves of the spine, and corresponding to it an improvement in the position of the heart, without other remedies, so favorably affect the circulation, respiration, and general health that I am disposed to believe with Adams that the lateral curvature is, in some cases at least, the *fons et origo* of the functional disturbance rather than the cachexia which is so apt to attend it. My experience has been chiefly, but not altogether, confined to girls between the ages of twelve and twenty-four. Lateral curvature is comparatively infrequent in boys and young men. The chief curve I have usually found in the dorsal region and to the right. The heart has been in all these cases displaced, the apex varying in position from a point three fourths of an inch to the right of the nipple to a point an inch to the left of it. I have found the usual difficulty in determining the causes. Phthisis, pleurisy, especially of the suppurative form, post-scarlatinal paralysis, rickets, and the carrying of unusual weights have appeared to be determining causes. While pain is an acknowledged sign of curvature, I have not found it constant or confined to any special locality. It may be referred to the spine or to the parietes of the chest or elsewhere. It is usually on the side of the principal curve. Palpitation and dyspnœa are not uncommon.

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* *Curvature of the Spine*, London, 1882.

* *Leçons cliniques*, Paris, 1858, p. 145.

† *Orthopædic Surgery*, 1890, p. 14.

My general plan of treatment, varying according to individual cases, has been the employment of—

1. Resistant exercises with forcible pressure.
2. Carbonated brine baths.
3. Massage.
4. Faradaism.
5. Nutrients.

My system of exercises is a little on the lines of the system laid down by Bernhard Roth, of London.* I give his plan in brief in order to compare it with my own. It is as follows:

1. The patient lies on the back, with arms to the sides; hands supinated. Several deep inspirations are then taken.

2. The patient in the same position extends the arms above the head and inspires deeply several times.

3. In the same posture the patient rotates the head and flexes it laterally.

4. In the same position the arm is circumducted.

5. In the same position one hip is circumducted, then the other.

6. In the same position the patient extends the arms forward and backward.

7. The patient lies prone and circumducts one hip, then the other.

8. The patient now sits on the couch and the ankle is circumducted.

9. The same, but the operator resisting.

10. The patient sits astride a narrow bench or couch prepared for the purpose and flexes the trunk, the operator resisting.

11. The patient grasping pegs on a pole, the operator rotates the pelvis.

12. The patient lies on a couch with the head projecting, while the head is flexed by the operator.

These exercises appear to be in the right direction, but are mild as compared with my own. They would be chiefly applicable, I think, in the earlier stages of the disease or in slight curves. I should prefer the more elaborate and scientific method laid down by Dr. R. H. Sayre † to Roth's system. Assuming that the scheme of exercises will vary somewhat according to the nature and extent of the curve, I now give my ordinary method in the fully developed double curve.

The system is mainly that of Professor Hartelius, of Stockholm, as modified by my associate, Dr. H. V. Barclay, and myself. The first step before each exercise is to make the patient assume a posture that in itself tends to reduce the deformity, and have this position maintained so far as possible during the exercises.

1. The patient, standing with the hands to the side, raises both arms (fully extended) laterally upward, so as to be parallel. At the same time the patient raises herself on her toes. The arm movement elevates the scapulæ and the ribs, pulls on the spinous processes of the vertebræ, rotates them upward and toward the median line, and in so doing elongates the spine. Put a patient with this special deformity on a measuring block, let her go through this motion, and the spine will be seen to elongate perceptibly. I have seen it elongate two tenths of an inch. This movement of raising the body on the toes tends not only to elongate the whole body, but also to correct the position of the pelvis.

2. The patient, resting against a suitable support, such as the horizontal bar of the gymnasium, applying the front of the pelvis to the bar, extends the arm corresponding to the dorsal concavity upward, the operator resisting. The low shoulder is thus raised, while the dorsal and all compensatory curves in lumbar and cervical regions are more or less straightened out.

3. The patient, standing in the same position and with the same support, places behind her head the hand of the arm corresponding to the dorsal concavity. The other hand grasps the hip of the other side. Now the patient flexes her body at the hip joint and then erects herself, carrying the body a little beyond the vertical line. The operator stands behind, places his hands on the convexity of the dorsal and lumbar curves and makes lateral pressure, resisting the erection of the body.

By this method, the patient having her spine supported and in a measure straightened by the operator, the erectors of the spine, the lumbar and gluteal muscles, are brought actively into play.

4. The patient now suspends herself by the hands from the ordinary horizontal bar, which is raised at one end a peg or two higher than the other, so that when the patient hangs by both hands the low shoulder is raised. The weight of the body is now thrown to the side of the convexity, taking the strain off the muscles over the convexity, while the spine is more or less straightened by the weight of the body and extremities. In this position the patient flexes the head backward, the operator resisting. This latter movement tends to reduce the secondary curve in the cervical region by bringing the muscles of the neck into play equally on both sides.

5. The patient now places herself prone on a flat table with the arm corresponding to the dorsal concavity stretched forward. She then raises the corresponding leg and opposite shoulder. This exercise flattens the "hump" in the back. Under this combined move-

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* *British Medical Journal*, May 13, 1882.

† *New York Medical Journal*, November, 1881.

ment the dorsal curve recedes very perceptibly during the exercise in the direction of the median line.

6. Patient lies in a semirecumbent position on a couch with the legs hanging over the extremity. The arm on the side of the dorsal concavity is placed behind the head; the other hand grasps the opposite hip. The operator now fixes the patient's knees, while she erects her body.

7. No. 7 is a repetition of No. 3, but in a sitting position, the knees being supported in front. This support steadies the pelvis.

8. The patient on the couch, with the upper hand over the head, lying on the side corresponding to the lumbar concavity, raises the leg as far as possible. This movement, which may be resisted, tends to eradicate the lower curve.

9. The patient sitting on a chair with her body bent forward, with spine as straight as possible, extends the arm corresponding to the dorsal concavity upward, while the other arm is carried down. These movements are done simultaneously, the operator resisting each movement. Then the arms resume the original position without resistance. The muscles of the cervical region are exercised by the ascending arm and the dorsal muscles by the descending arm.

10. The patient in the standing position raises the straightened arm corresponding to the dorsal concavity to the perpendicular. The other arm, still straight, is carried backward and inward. These movements, like those of No. 9, tend to straighten dorsal and cervical curves. They should be carried to the limit.

11. Patient suspended from the bar by the hands raises both knees. The abdominal and psoas muscles are brought into play, the body being held in a favorable position.

12. Patient suspended from the bar extends both legs toward the side of the lower convexity. This exercise tends to straighten the lumbar curve.

13. The patient standing with leg of side corresponding to lumbar convexity in front, and leaning forward, carries both arms backward and inward to the limit. This exercise carries the shoulder blades toward the spine and tends to remedy their false position.

14. The patient, lying prone across a narrow table, with the arm corresponding to the dorsal concavity extended, the other hand on the corresponding hip, both ankles being fixed by the operator, erects the trunk several times successively.

15. The patient, suspended from the bar, separates the extended legs under resistance. This movement tends to lessen the lower curve.

16. The patient, lying on a table and on the side corresponding to the lumbar concavity, with the trunk extended beyond the edge of the table, the ankles being fixed by the operator, with the arm of the depressed shoulder extended over the head, carries the trunk upward to the limit. This exercise is very effectual in straightening the lumbar curves, while the extended arm tends to straighten the dorsal curve.

In the beginning, or with feeble patients, these movements may require assistance by the operator.

In the majority of cases there is advantage in using physical force in the reduction of the deformity. The "hump" should be pressed down forcibly when the patient is lying prone on a hard surface. I have never known this method to give pain; in fact, it is agreeable to the patient.

Forcible correction, the *redressement forcé* of the French, has been recommended and resorted to by various orthopædists. Indeed, there are, as is well known, appliances adapted for forcible correction. Barwell * describes a method which he calls rhachilysis. My experience indicates that if the operator is strong enough, and can give the requisite time, forcible correction can be accomplished with a fair degree of success by manual means without the assistance of any mechanical appliance. But it is not unlikely that mechanical contrivances for forcible correction may be used with advantage in correcting certain classes of these deformities, in conjunction with resistant exercises and manual pressure.

In cases of bony rigidity without complications, it is folly to expect success without using forcible correction. It is astonishing how much double pressure can be borne with impunity.

If there is also Pott's disease, or a reasonable suspicion of it, and such cases will confront us, forcible correction would, of course, be a very improper procedure in connection with resistant exercises.

Forcible reduction rests the overstretched muscles over the convexity and reestablishes their tone. The projecting scapulæ will sink toward the normal position.

Massage to the muscles of the back is not only a valuable adjunct, but is enjoyed by the patient. It should be given when the patient is lying with the back bared and upon a well-upholstered couch, and at the end of the exercises.

The faradaic current may be applied occasionally during the entire course of treatment. It should be employed for a few minutes only, so as to actively contract the muscles of the back. As in any disease, each patient has to be treated with a view to the individual case, but the methods described are those that are applicable to ordinary uncomplicated cases with the S-shaped curve.

The use of carbonated brine baths is of material aid in the treatment, the results being more rapidly attained when baths and exercises are combined. In private practice they should not be neglected.

I advocate the use of the warm carbonated brine baths of moderate strength during the entire course of treatment. The strength of the brine should be from three fourths per cent. to one per cent., and of the carbonic-acid gas from one fourth to one half per cent.

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* *Lancet*, April 27, 1889, p. 831.

The stronger carbonated baths applicable for chronic valvular diseases of the heart are not advisable.

In a majority of cases I use (to supplement the treatment) tonics, such as iron and strychnine, and nutrients, such as cod-liver oil and the malt extracts, and I use them for long periods. Some preparation of malt I find desirable in nearly all of these cases.

The following are illustrative cases:

Case I. *Spinal Curvature; Anæmia; Cardiac Displacement; Corpulence.*—Miss H., aged twenty-four years, Havana, Cuba, a young lady of large build; height, five feet six inches and a half, weighing about a hundred and sixty-three pounds, came to me for treatment July 10, 1898, wearing a spinal brace.

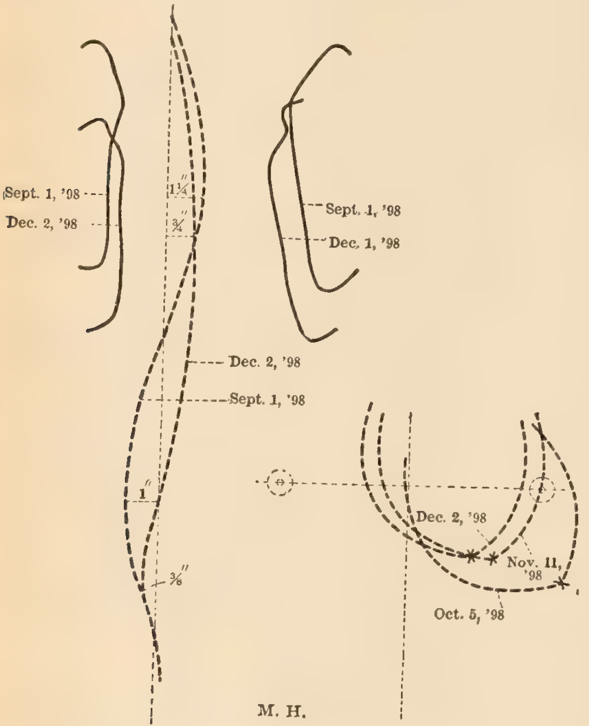


Fig. 1. Fig. 2.

September 1, 1898.—On examination it was found that she had, on standing, the usual lateral curve to the right in the dorsal region; pelvis rotated and tilted. Left breast unduly prominent. Pale and anæmic. An excess of flesh, chiefly about the waist and hips. Short-winded on slight exertion, with deviation of about an inch and a half from a straight line in the interscapular region, and deviation of an inch to the left in the lumbar region. Apex of heart to left of nipple an inch, and an inch and a quarter below the extended intermammary line. Patient given iron and strychnine and the brace removed.

October 19th.—One half per cent. carbonated baths given twice a week. Resistant gymnastic exercises daily under direction. Massage and electricity to spinal region.

November 11th.—Three fourths per cent. carbonated baths once a week.

December 2d.—Under this treatment, continued for three months, though the course was interrupted by an attack of influenza, the spinal deformity has been so far rectified that the greatest deviation from the normal line on standing was only three quarters of an inch in the dorsal region, and in the lumbar region three eighths of an inch.

January 2, 1899.—Apex three inches from the median line and one from the intermammary line. The patient was now suddenly summoned to Havana. She also lost about fifteen pounds in four months, a little less than four pounds a month, and was greatly improved in her physical condition.

It will be seen by Fig. 1 that while the spine was being straightened the heart (Fig. 2) was gradually carried inward toward the median line.

After treatment had been begun the brace was entirely dispensed with. This case was published without the diagrams and with the omission of some of the details in the *Post-graduate* for March, 1899.

Case II. *Lateral Curvature; Cardiac Displacement.*—J. C., a patient sent me by Dr. E. S. Holt, November 13, 1897.

Age, sixteen years; weight, a hundred and thirteen pounds and a quarter; height, standing, fifty-eight inches and a half; sitting, thirty-one inches; chest, 29–31.5.

Curvature of the spine was noted about five years ago. Has had pneumonia and pleurisy since the curvature began; catches cold easily; has sore throat often, so have her brothers and sisters; was feeble as a child. Finds it hard to sit up; has the common dorsal curve to the right. Left breast prominent. Often has pain in left side of chest; thinks it is from dyspepsia. The left hip is higher than the right. The anterior superior spine of left side is lower and more forward. Is not short-winded; has no thoracic pain, but suffers from insomnia; she wore a brace about two years. Patient is robust. Restraint exercises were given her daily under

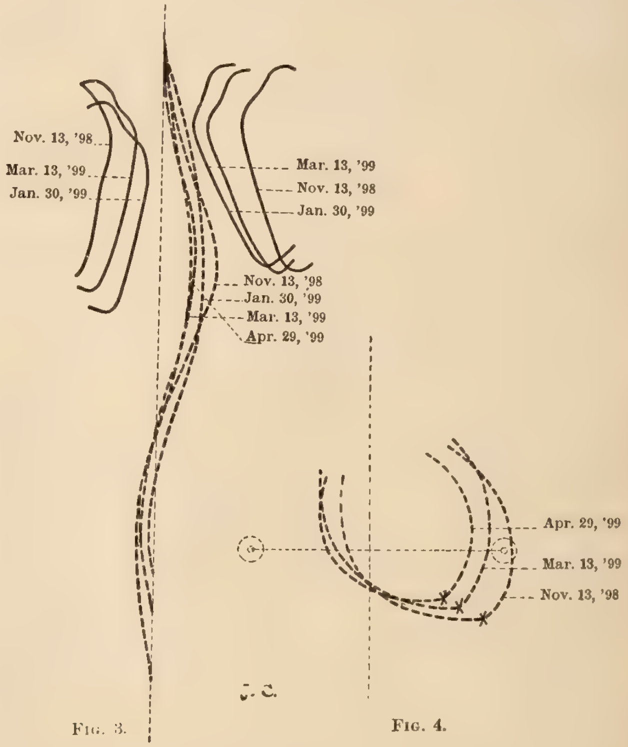


Fig. 3. Fig. 4.

my directions for an hour for about nine weeks, and then three times a week afterward. The improvement in the curve and in the position of the heart is shown by Figs. 3 and 4. Patient has broadened the chest under treatment an inch and a quarter, and has an inch and a fifth more expansion. Has lost two pounds in weight, but has improved greatly in physical appearance.

Case III. *Spinal Curvature; Moderate Cardiac Displacement.*—K. G., aged thirteen years; height, 57.5 inches. Two years ago noticed a crook in her back; thinks it came from carrying an infant, possibly from a fall that caused depressed fracture of her skull. Often has pain in right side. Left breast most prominent. Left hip highest, left anterior superior spine most forward. Wore a brace about six months; wears none now; took it off during the gymnastic treatment and feels better without it. The diagram illustrates the results under resistant exercises. (See Figs. 5, 6, and 7.)

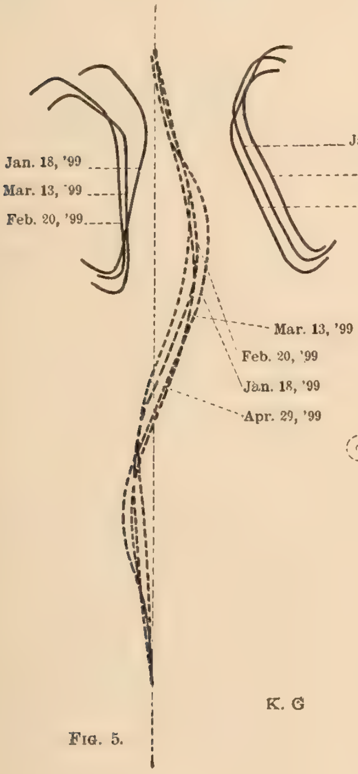
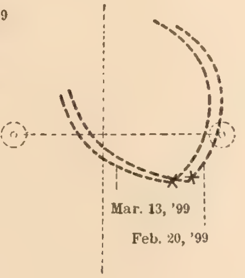
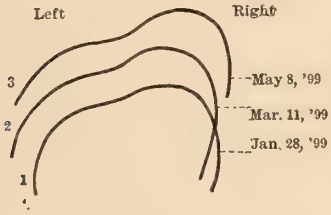


Fig. 5.



K. G

Fig. 6.



K. G.
Fig. 7.

In this case, and in Case IV, the tracings, kindly taken by a well-known orthopædic surgeon of the Orthopædic Hospital, must be studied in connection with other measurements. The tracing of May 8, 1899, shows an apparently excessive deformity, but measurements made in this way, as in fact all systems of measuring these deformities, are more or less misleading, even where they are, as in this instance, quite accurate. In this particular tracing the deformity is exaggerated by the fullness of the muscles, which by exercise, massage, and electricity have been greatly increased in size. But Fig. 5 shows that in this instance the compensatory curves in the lumbar and cervical regions have been improved, and in fact that there has been a progressive improvement in all the curves.

Patient has been under the use of maltzyme for two months and upward. She has gained in weight several pounds, and also in general condition.

Case IV. *Spinal Curvature; Rigidity of Spine; Rickets; Debility.*—L. F., aged sixteen years; height, 52.6 inches standing; twenty-eight inches sitting; weight, eighty-one pounds. The following history was kindly furnished by Dr. Ethel D. Brown, under whose observation she came, and by whom she was first seen in February 14, 1895. Patient as a baby was weak, and sickly as a young child. At that time the trouble had only been noticed by the family a few weeks earlier. The first symptoms she complained of were pain in the lower part of the spine and a tired feeling. Then the mother noticed that one shoulder was larger than the other. Even at that time, four years ago, the spine was quite rigid. The greatest convexity of the deformity was toward the right, opposite the sixth, seventh, and eighth dorsal vertebræ, the deviation being at the highest point half an inch from the median line approximately. Considerable rotation. Left shoulder slightly lower. The patient was put on tonics and given exercises from the above date until the autumn, three times a week, except for a few weeks when she was in the country. In the autumn she left to go to the country, the parents preferring to have her wear a brace to taking the exercises.

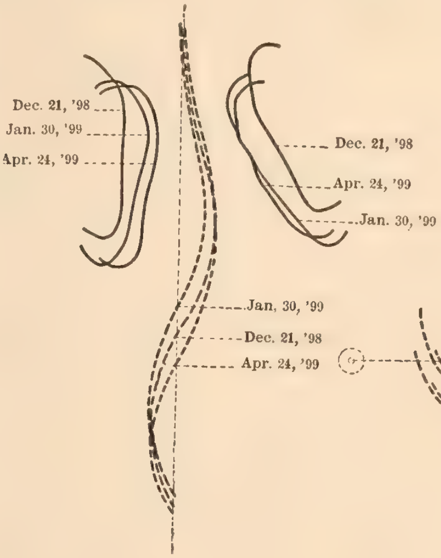
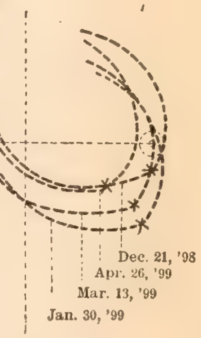


Fig. 8.



L. F.

Fig. 9.

Patient has had scarlet fever. The principal cause of the disease was rickets. Patient had not complained of palpitation, was not short-winded, but suffered from frontal headache. Pelvis rotated and tilted. The crest of the left ilium is about an inch higher than the other, while the anterior superior spine is turned downward and thrown forward. On January 13th patient was wearing a brace. She wore one for a while when tired, but has now totally dispensed with it. The patient was put on maltzyme, and later on maltine, and has been gradually improving in her general health.

May 16, 1899.—Height, fifty-three inches; weight, eighty-two pounds and three quarters. Patient has gained an inch and a half in the chest measurement and two inches and three quarters in expansion.

The diagrams No. 8 and No. 9 show the changes under treatment. The curves are straightening a little, while the heart's apex has moved inward.

This case was selected as a bad one, in which little if anything was to be expected; indeed, such was the deficiency in height, weight, and bodily strength, and so great the rigidity of the spine, and debility with exceeding deformity, that the case was thought typical to test the value of this method in bad cases. In fact, a celebrated English authority, when asked whether his system of exercises would benefit this particular case, replied that he would not think of applying it.

The case is also remarkable in several other ways. No baths were given. The treatment was merely resistant exercises with forcible pressure and nutrients.

These tracings (Figs. 8 and 9) also were kindly taken for me by a well-known orthopædic surgeon. The third and last tracing (Fig. 10), taken over the tenth dorsal on May 8, 1899, showed that the patient had apparently greater deformity than ever. Undoubtedly at that point the prominence was marked, and indeed increased to a slight degree in the mid-dorsal, but by looking at Figs. 8 and 9 under date of April 24th and 26th, about two weeks earlier, it will be seen that on the whole there was an improvement in both upper and lower curves and in the heart's position—in fact, notwithstanding the extreme rigidity that had existed for years in this case, it was to a degree amenable to treatment. In this connection it must be added that the alteration in the curves of the tracings are in a measure also in this case, as in the previous one, due to the development of the muscles of the back under this special treatment.

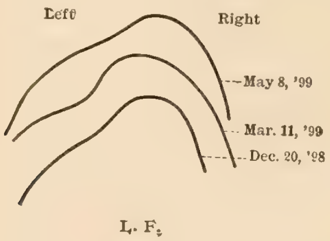


Fig. 10.

In measuring a spinal deformity I let the patient stand with the feet together, hands to the side, and shoulders thrown back, the head and body being held in as erect a position as possible. I then trace the spinous processes, the angles of the scapulæ, and the levels of the crests of the ilia on the bare skin with a dermographic pencil and take off a tracing with the ordinary vegetable-fibre tissue paper used by artists. Of course, antero-posterior curves do not show by this method. And yet I may add here incidentally that antero-posterior curves are apt to be greatly improved during treatment, as shown by the "popping up" of spinous processes that at first may have been buried out of sight.

But while I have adopted the method of measuring the amount of curves as mentioned, I have not relied wholly on it, but have, as already stated, supplemented it by the lead tracings, as shown by Figs. 7 and 10, and also by photographs and X-ray pictures. From the tracings of the scapulæ it will be seen that the results of this treatment are that the inner borders are brought nearer the spinal column and assume more nearly the vertical or normal line.

It is quite unnecessary, I feel sure, for me to state here a fact widely recognized by orthopædists, that every system of measurement heretofore devised has proved more or less unsatisfactory. A few of the objections are as follows: Photography rarely gives one a sufficiently distinct picture of the deformity. X-ray pictures are difficult to make. We have not as yet mastered the technique of them. Lead tracings may exaggerate the deformity, and are therefore deceptive.

The method I employ is also apt to be misleading, I may admit, especially if the patient does not stand as erect as possible. But it is a simple method, and if carefully carried out is reasonably accurate. So, also, I may say with the method I employ in mapping out the heart, as seen in Figs. 2, 4, 6, and 9.

In this latter procedure it is noted that I aim to draw a horizontal line through the nipples and intersect it with a vertical line drawn from the episternal notch to the umbilicus.

In a sound person this first or intermamillary line is practically horizontal; the vertical line is the median line of the body. And the point of intersection of these two lines should furnish us with a good fixed point from which to make cardiac measurements; but in lateral curvature the point of intersection of the two lines is not a fixed but a constantly shifting point during treatment. For, as the spine becomes straighter, the fixed point gradually moves to the right and a little up or down, because the intermamillary line is not horizontal, owing to the bulging of the breast. However, in clinical work we are obliged to adopt certain fixed standards as to the landmarks of the body, and with due allowance made in this case, as in others, the results will, I think, be sufficiently accurate for practical purposes. To avoid confusion, I have inserted only a single vertical and a single horizontal line in each case (see Figs. 2, 4, 6, and 9).

It must not be thought that I am inveighing against spinal supports. I have used them in lateral curvature at various times in my practice, and have been satisfied with the results they have given. But a support is palliative rather than curative. Often the patient finds that he is gradually getting worse, notwithstanding his support. The method I have advocated has, I hold, a much wider application and is more scientific.

It is applicable more or less to all stages of the deformity, and is capable of yielding good results both in remedying the curvature and the displacement of the viscera, provided the patient is willing and able to co-operate with the physician. Just how much benefit can be secured by the method in old cases, or where there is considerable rigidity, I am not prepared to say, but I am satisfied that it is capable of doing something for circulation and respiration even in the most advanced cases.

Gymnastic exercises, however, such as are given for lateral curvature in the ordinary perfunctory manner in schools and gymnasiums, will not accomplish much if the patient is a delicate subject, or the case is advancing rapidly. Special exercises adapted to special deformity are requisite. Resistant exercises also are needed, and with them forcible pressure.

Briefly, treatment by the method advocated is the one that gives the largest promise of good results in lateral curvature. Spinal supports are chiefly useful in mild cases as temporary expedients, or as a last resort.

7 EAST EIGHTIETH STREET.

REMOVAL OF A FOREIGN BODY FROM THE BRONCHIAL TUBE THROUGH THE TRACHEAL OPENING.

REPORT OF A CASE.[*]

BY A. COOLIDGE, JR., M. D.,
BOSTON.

THE presence of a foreign body below the larynx is a serious accident, and one in which prompt and proper action may be rewarded by saving the patient's life. Such cases commonly come under the care of the general surgeon, who, if there is marked obstruction to breathing, or if he is persuaded that there is something in the trachea, often does tracheotomy at once. The danger from tracheotomy is slight in comparison with the danger from a foreign body impacted in a bronchus. A body loose in the trachea often flies out of the tracheal wound; a body impacted in the larynx can be reached easily from below, but if it is in a bronchus it is only with good luck that it can be got out unless it can be seen.

Reflecting mirrors and angular instruments introduced into the tracheal wound are difficult or impossible to manage. It is possible to introduce a straight speculum into the trachea, and by bending the upper part of the body and head backward and to one side, to push the speculum downward, so that its axis is a continuation of the axis of the lower part of the trachea. This has been described by Schroetter,[†] and worked out in detail by Pieniazek,[*] who has removed foreign bodies and also treated locally the mucous membrane of the trachea. By proper light, not only the trachea, but often the whole length of the right bronchus and much of the left can be seen. This is made easier by a modification by Killian [†] of the methods and instruments of Kirstein. Killian introduces straight specula well into the bronchi, taking advantage of the mobility of the lower trachea and bronchi, which permits considerable straightening, or bringing into line, of the bronchus under investigation. In cases where there has been no tracheal wound he has passed a long straight tube through the mouth and larynx, and even into a bronchus.

The case which I report simply illustrates the ease with which a foreign body, that without this method would be extremely difficult to find, can be removed from a bronchus:

T. J. D., aged twenty-three years, a teamster, was admitted to the Massachusetts General Hospital May 11, 1898, in the service of Dr. A. T. Cabot, who kindly turned the case over to me. The patient had worn a tracheotomy tube for twenty years on account of stenosis of the larynx. His last tube was made of hard rubber, and was several months old. Twelve hours before admission the tracheal tube had become detached from the shield and had been inhaled, causing severe coughing and distressed and noisy breathing, which, although less severe, was still present when he was admitted.

Examination by X ray was negative. The patient was etherized and put on his back with the shoulders over the end of the table and the head held downward and rotated to the right side. The tracheal opening was enlarged downward. Not having any other straight tube of the proper calibre on hand, I used a urethroscope half an inch in diameter and three inches long, a little short for perfect examination. This was passed through the tracheal wound with the stylet in place, turned downward, the stylet withdrawn, and the speculum without any difficulty pushed down the trachea to within about an inch of the bifurcation. For illumination a head mirror was used with reflected sunlight, and this illumined the field perfectly.

The foreign body was seen in the right bronchus, the upper end about half an inch below the bifurcation; it was seized with a long pair of alligator forceps introduced through the speculum and removed without difficulty. The patient suffered no ill effects from the operation.

During the whole time respiration was carried on easily through the speculum, except for attempts at coughing at first, which soon subsided. There was no inconvenience from secretion.

The trachea in the adult is from four to four inches and a half in length and from three quarters of an inch to an inch in breadth, being distinctly larger in the male than in the female. A low tracheotomy will cut off perhaps an inch, leaving from three to four inches to the bifurcation.

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[*] Read before the American Laryngological Association at its twenty-first annual congress.

[†] *Krankheiten der Luftröhre.*

[*] *Archiv für Laryngologie*, Bd. iv, p. 210.

[†] *Münchener medicin'sche Wochenschrift*, No. 27, 1898.

The histories of cases of foreign body in the air-passages treated expectantly show so large a mortality, especially from septic pneumonia, that I venture to suggest the following rules for discussion:

In case of a foreign body of a size large enough to make it improbable that it has got lower than a primary bronchus, immediate tracheotomy and exploration by means of straight tubes, as large as possible, with good illumination, offers by far the safest course to pursue. If the foreign body is of smaller size, and the physical signs point to its presence in a secondary bronchial tube, operative interference is justifiable if there is a good chance of reaching it after illuminating the primary bronchus, as would be the case especially on the right side.

It should always be borne in mind that a body loose in the trachea is much less dangerous to the patient than the same body impacted in a bronchial tube, and consequently everything which excites violent respiration should be carefully avoided. On this account it is much better to do tracheotomy with cocaine than under an anæsthetic. Neither is it necessary that the patient should be anæsthetized for the introduction of the tracheoscope. In special cases it may be possible to avoid tracheotomy by introducing straight tubes through the glottis from above, but if the foreign body is being rattled to and fro in the trachea it would hardly be justifiable to run any additional risk of its being inhaled. Even when the foreign body is in the larynx, in such a position that there is considerable danger of pushing it downward in attempts to get it out, it may be safer for the patient to do tracheotomy and reach it from below than to run the risk of its being inspired and impacted low down.

It should be added that thorough surgical cleanliness is of vital importance where the principal danger lies in septic pneumonia.

A NEW SERIES OF THERAPEUTIC AGENTS.

By KARL SCHWICKERATH, Ph. D.

(Preliminary Report)

Among the oldest and most important remedies of inorganic chemistry belong, without doubt, the salts of iron, mercury, silver, and copper. Compounds of the last three elements have found a very extended application as antiseptics—particularly mercuric chloride (sublimate), silver nitrate, and copper sulphate. The chief objections to the use of these germicides are, however, that they are decidedly irritating, and they lower the vitality and resisting power of the tissues. The reason for such action we must seek in the fact that these compounds possess too great a chemical affinity for animal tissue, or for the constituents of the cell. Therefore, we very often find that the most powerful antiseptic agents, especially when used in stronger solutions, considerably retard the healing of wounds, and consequently the practitioner frequently obtains results just contrary to his expectations.

Concerning the operation of an antiseptic agent we still know very little. Most probably the chief action of germicides consists in this—they influence the soil in such a way that thereby the conditions so essential to the life of micro-organisms become unfavorable. We know that a series of metallic salts enter into peculiar combinations with certain proteid substances, and recent investigations have demonstrated that the leucocytes are the exclusive agents of absorption and transportation through the circulation of mercury, iron, and silver compounds. The multinuclear and uninuclear leucocytes are principally engaged in this work. If, therefore, a solution of sublimate or silver nitrate is brought into contact with a wound or with mucous membrane, chemical reaction will follow. The metallic base is gradually absorbed, while the acid portion reacts with albuminous substances, which reaction manifests itself, for instance, by coagulation. From this fact the idea suggested itself that possibly soluble compounds of mercury and silver with such substances as have a more intimate relation to animal tissue might be comparatively non-irritating. The thought occurs at once to consider nuclein; the more so as the theory has been advanced that most probably the nucleins play a very important rôle in the transportation of iron. Hence my task was before me.

The main difficulty, however, consisted in preparing a pure nuclein in large quantities by a process not too complicated. I have succeeded in accomplishing this, obtaining a pure nuclein in the form of an almost white amorphous powder. For crude material I employ yeast, which is comparatively rich in nuclein and is available in large quantities. This pure yeast nuclein, to which I have given the name of nucleol—in order to avoid confusion with certain nuclein preparations of commerce of more or less doubtful origin—is soluble in warm water, but insoluble in alcohol. Its solubility in water is increased by the addition of dilute alkali. If now we add to a solution of nucleol in water freshly precipitated mercuric oxide, the latter is gradually dissolved. This reaction is accelerated by gentle warming. If, to the solution thus obtained, a large quantity of alcohol is added, a voluminous white precipitate is formed, which represents a new chemical compound of nuclein with mercury. The silver, copper, and iron oxides react in a similar way with nucleol.

These new compounds are readily soluble in water, particularly warm water, with neutral or faintly alkaline reaction, and they contain the metals in *true chemical combination. They do not precipitate solutions of albuminous substances.* Consequently, my purpose was accomplished. I had succeeded in preparing soluble compounds of mercury, silver, copper, and iron with a proteid substance, nuclein, which I expected would have very slight chemical affinity for the tissues—that is, they should display very little chemical reaction, but physiological action only.

My next task was to determine whether these new compounds were able to take the place of the inorganic compounds, mercury bichloride, silver nitrate, and copper sulphate, in the treatment of infectious inflammations.

Only practical clinical experiments could decide this question. Laboratory experiments, or test-tube experiments, are to my mind almost useless when we desire to establish the value of an antiseptic agent that is intended for the disinfection of any part of the living organism. If the problem is to determine the value of a disinfecting agent for general use outside the body, then, of course, such experiments are a necessity and of the greatest utility. In the case of the animal organism, however, we have to deal with different conditions. As I have already mentioned, with an increased activity of the disinfecting agent there is also generally a greater increase of properties detrimental to the protoplasm. Again, a disinfecting agent might give results in the test-tube experiment with an artificial culture medium, whereas in the treatment of wounds it becomes practically worthless. The following striking example will illustrate this: Iodoform, *per se* an indifferent substance, becomes a very powerful germicide when brought in contact with wounds. On the other hand, under the same conditions, a watery solution of mercuric bichloride, which displays most powerful antiseptic activity, become more or less inert through the influence of the secretions of the wound and the bacteria.

Clinical experiments with these nuclein compounds have not only fulfilled all expectations, but they have exceeded them. Practical prolonged investigations have shown that these new compounds possess all the therapeutic advantages of the respective inorganic salts, without their disadvantages. As one would naturally expect, the mercury compound apparently displays the greatest activity. In the following paragraphs I submit a few data concerning the different compounds.

Nucleol.—A pure nuclein from yeast. It exists in the form of a whitish powder, readily soluble in warm water; insoluble in alcohol.

Mercurol.—A nucleide of mercury, containing about ten per cent. of the latter in organic combination. It exists in the form of a light brownish-white powder; is soluble in water, especially warm water, with faintly alkaline reaction; insoluble in alcohol. It does not precipitate albuminous liquids and is not precipitated by alkalies. In preparing solutions, instead of plain distilled water, physiological salt solution (one drachm of sodium chloride to one pint of water) should be employed.

Nargol.—A nucleide of silver, containing about ten per cent. of the latter. It exists in the form of a light brownish-white powder; is readily soluble in warm water, with faintly alkaline reaction. It does not coagulate albumin and is not precipitated by alkalies or ordinary reagents for silver. When solution of sodium chloride is added to a nargol solution no precipitation takes place. After standing for a long time, however, a gradual decomposition and separation of silver chloride occurs.

Cuprol.—A nucleide of copper, containing six per cent. of the latter. It exists in the form of a green powder; is readily soluble in warm water. Its solution does not coagulate albumin, and is not precipitated by alkalies, etc.

Ferrinol.—A nucleide of iron, containing about six per cent. of the latter. It exists in the form of a cinnamon-brown powder; is readily soluble in warm water, with neutral reaction; does not coagulate albumin, and is not precipitated by the ordinary reagents for iron. The iron is here present in a stable organic combination, which should render the product valuable when prompt absorption is desired.

More detailed information as to the chemistry of these new products will be published in the near future in some chemical journal. The house of Parke, Davis, & Co. will undertake the manufacture of these products.

March 30, 1899.

THE AMŒBA CILIARIA IN DISEASE.

By HENRY GEREON GRAHAM, M. D.,
CHICAGO.

THE object of this article is to show the manner of origin of some of the acute infectious diseases. An attempt will be made to show the relation existing between malaria and septicæmia, malaria and typhoid fever, typhoid fever and pneumonia, and typhoid fever and purpura hæmorrhagica, although it is usually believed the last two have little in common. Others might be added to this list, but those enumerated will suffice for the present. It will be shown how the typhoid bacillus is sustained until it can reach a new and favorable environment. We shall see why the solitary glands, and particularly Peyer's patches, sustain the brunt of the attack, and why there may be severe diarrhœa in one case and none in another. Finally, it will be shown what is the cause of the rose spots in typhoid fever and what that of the minute hæmorrhagic spots in purpura hæmorrhagica.

The cause of all these will be sought in water.

If only a few drops of water are taken at random and placed upon a slide, few or no organisms will be seen. In order to ascertain the variety and quantity of organic life present in a given water, a comparatively large amount must be taken and the organisms collected into a few drops. A litre is a convenient quantity. If practically all the motile and most of the nonmotile organisms in a litre of water are collected so that these are seen in the first few drops placed upon the slide, a good idea is obtained as to the amount of organic life present in a given specimen.

If a given water is examined in this way it will be noted what organisms are common and what are rare, what are constant and what accidental.

Any one who will take the trouble to do so will find that in the hydrant water as it comes from the lake, the various micro-organisms in order of frequency will be seen to be as follows:

1. A coccus or diplococcus.
2. A bacillus, the *Bacillus proteus vulgaris.*
3. The *Amœba ciliaria.*

The diatoms and the desmids are not included in the above for the reason that they are probably in no degree pathogenic. However, as they are frequently present in the urine, in diseased conditions, it is possible the siliceous frustules may cause irritation of the uriniferous tubules of the kidney.

Of these organisms, J. H. Wythe says: "Diatoms inhabit the sea, others fresh water. They are so numerous that scarcely a ditch or cistern is free from specimens, and they multiply so rapidly as to actually diminish the depth of channels and block harbors."

The first, or monococcus, is so common that it exists in almost every drop of water. It is the smallest body visible through an ordinary microscope that is found in water. It multiplies by division of the mother cell. When in the process of division, the latter appears as a diplococcus. It is a facultative micrococcus, and can exist for at least seven months deprived of air and light. When thus shut in, it grows for the most part in clusters in the form of a circle. The individuals in a cluster may be as few as fifty or less, or they may number millions. A large cluster has a dull grayish appearance. At times some of the diplococci persist, and these, with others, may form chains that look like streptococci, only the chains are short, consisting of four to six up to ten individuals. Many single cocci existing apart from the clusters are always to be found. Most of these are exceedingly active, moving apparently by means of flagella.

The second micro-organism, the *Bacillus vulgaris,* though frequently met with, is not nearly so common as the micrococcus. It exists in great quantities in water that has become slightly tainted with organic matter, but is not rare in the best hydrant water. Ordinarily it does not form spores, but may do so under certain conditions. When spores form, they are found in the end of the bacillus. In hydrant water they are sometimes seen as delicate and very long spiral threads. These divide transversely to form the bacilli, which usually exist singly. They often, however, form pairs, the connecting substance between two bacilli persisting. They are actively motile whether found singly or in pairs. If a bacillus containing a spore is stained by the Ziehl-Neelsen method, the spore is stained red, the rest of the bacillus blue.

The third in point of frequency are the amœbæ. In searching for infusoria in fresh water, four species of amœbæ will be found, *Amœba princeps, A. verrucosa, A. diffluens,* and *A. ciliaria.* In almost every cup of water drawn from the hydrant some one of these organisms, in some stage of development, is usually to be found. The last occurs more frequently than all the others combined, and as a morbific agent in the production of acute infectious diseases is a most important organism. Scarcely a litre of hydrant water can be drawn in which this organism, in some stage of its development, is not present. The ovule is the form most frequently encountered. This is usually perfectly round, sometimes slightly elongated, and is a lustrous body. A tenacious ovule membrane forms an excellent protection for the young amœbæ against mechanical or chemical injury. The young amœbæ within this ovule membrane form a sphere, the individuals being ranged upon the surface and anchored to its centre by means of a filament. Between the ovule membrane and surface of the sphere is a clear interval that contains no granules. When the ovule membrane bursts and the sphere is set free, the young amœbæ are at once dispersed, they being by this time very actively motile. The filament develops into a proboscis by means of which the young amœba obtains its food. At this time they may be seen in large numbers gathered about any organic matter that may be present and feeding upon it with great avidity.

It is in the warm summer months that the sphere of young amœbæ is broken up immediately the ovule membrane bursts. As the weather grows colder, the sphere remains intact longer, and by October and November it goes tumbling across the microscopic field like the living thing that it is. With the growth of the young amœba, the proboscis gradually disappears. In its place in the adult is a small opening—an oscule—which serves for a mouth. This is found near the apex, in that part free from granules, and which may be designated the head. Through this oscule the amœba takes in a small globule of water, or air and water, with whatever may be floating in it, and soon expels it again. This globule is sometimes retained for a considerable period. This seems to be the rule when there is floating in it some minute form or fragment of organic life. This is apparently the manner in which the organism procures its food. A number of these globules are often to be seen in an amœba and appear as vacuoles. It is often noticed that when one is feeding, all are feeding; when one is at rest, all are at rest.

The *Amœba ciliaria* is usually colorless, although it may be tinted a very fine green or bluish green. It is a very active organism, moving swiftly by means of numerous cilia which project from every part of its surface, save in the immediate vicinity of the head. In the largest specimens these cilia are easily seen, but in those of average size it is necessary to use a stain.

Loeffler's solution will stain both the ectosarc and the cilia, when the latter may be seen in rapid motion.

In addition to these, a great variety of other organisms are found, some of them in large quantities at certain seasons of the year. A few of these are important because of the part they play in the production of disease, while most of them are probably without any pathological significance.

The *Amœba ciliaria* is an important morbific agent because:

(*a*) It may become a host for parasites.

(*b*) While a host, it may itself become a parasite.

(*c*) It possesses a wonderful power to penetrate tissue.

That it may harbor parasites is shown by the following: A litre of water was drawn from the hydrant. Practically all the motile organisms it contained were collected into a few drops. In one drop placed upon the slide was a very large amœba. The cilia were numerous and were very plainly to be seen without the use of a stain, as its movements were sluggish. It was about twice the size of the average amœba and measured approximately sixty micromillimetres in length and thirty micromillimetres in width, being elliptical in form. Cilia projected from the entire surface of the ectosarc, save a small area about the head where none could be seen. By racking the microscope tube down upon the cover slip the ectosarc was easily broken, and when racked up again it was seen that at the point where the ectosarc had burst a bacillus had escaped. This was followed by another and another, until quite a number had made their exit from the ectosarc.

This bacillus was short and comparatively thick, had a very lustrous body, and was exceedingly active. Any one familiar with the appearance of the typhoid-fever germ would say at once it was that bacillus. It bore as close a resemblance to the typhoid-fever germ as one typhoid-fever bacillus could bear to another. They would disappear from the field so quickly that it was impossible to follow their movements. Some would reappear only to dart quickly across the microscopic field. Their movements presented that peculiar appearance due to a change in the angle of refraction, and which is seen to the best advantage in the movements in the typhoid-fever bacillus through water. The typhoid bacillus, or another that can not be distinguished from it morphologically, is not the only germ that is found as a parasite in the amœba. In this same individual were a large number of monads that floated down in the stream that poured from the rent in the ectosarc. Their movements were very similar to those of the monads seen in the blood of persons suffering from malarial infection. Cocci and diplococci were also to be seen. In addition to the bacilli, the monads, and the cocci, were the large number of ovules of the amœba. All these, together with the contained fluid, had swelled the ectosarc almost to bursting, and instead of the easy, rapid motion characteristic of the adult amœba, there were the slow, labored movements of this disease-infected organism. The ectosarc with its cilia quickly disappeared, so that in a very short time nothing but what it had inclosed could be detected at the former site of the amœba.

Many times since, the same phenomena have been witnessed on smaller amœbæ, so large a one being rarely encountered. In these smaller amœbæ it is difficult to burst the ectosarc by mechanical pressure, and chemicals are resorted to for this purpose. In this way the contents are easily studied, and, while a very large number of observations show the amœba as it exists in drinking water to be as a rule free from these lower organisms, it is often found to be infected with cocci, monads, and bacilli whose presence distends the ectosarc, inhibits the movements, and finally results in the death of the host.

A distinction is made between coccus and monad, the first changing its shape only to form pairs or groups or chains of bodies morphologically similar to the parent, the second being only one of a number of forms of some higher organism assumed successively in its cycle of existence. "The name of monad has been commonly applied to minute free or fixed, rounded or oval bodies, provided with one or more long cilia, and usually provided with a nucleus and a contractile vacuole. Some are locomotive conditions of indubitable plants, others are embryonic conditions of as indubitable animals, yet others are embryonic forms of organisms which appear to be as much animals as plants, and of others it is impossible to say whether they should be regarded as animals or plants." (Huxley.)

As the cocci and some of the monads—higher organisms in the embryonic form—look so much alike, it is sometimes difficult to distinguish the one from the other. Where no diplococci are present to mark the distinction, it may be necessary to cultivate the germ and watch its development. After the death of the host, these organisms, whether coccus or monad, multiply very rapidly, the ectosarc bursts and the germs are set free. The resting form of the amœba, removed from cold water into hay infusion at room temperature, is the most favorable for study. This is most conveniently done during the winter months. The amœbæ attain a large size and show the ovules plainly within. For the first few days they are very vigorous and feed upon the saprophytes that chance to be present. With the lapse of time, as the alkalinity of the fluid deepens, the latter gain the upper hand, and in the course of a month nearly all the amœbæ, little and big, are dead, many of them filled with parasites, some of them bursting, setting the latter free. These parasites are usually cocci, monads, and bacilli, often the *Bacillus subtilis*.

Parasitism among these infusoria is very common. The cocci and the monads, from their small size and wide distribution, are the most frequent victims. It would seem that these small bodies form a large portion of the food of many of these water organisms, but that after the death of the latter these cocci multiply so rapidly that *en masse* they present the dull grayish appearance referred to above, when the clusters of cocci must number millions of individuals. It is no uncommon sight to see a dead larva, amœba, *Epstylis nutans,* and a host of other organisms teeming with these micrococci.

That this amœba may become a parasite is proved by the following: Some flowers gathered from the fields, with their stems left long, were put into a vase containing hydrant water. In the course of a week large numbers of the *Amœba ciliaria* had developed in this fluid. Numerous larvæ found their way into the vase, and were with the amœbæ removed from time to time by means of a capillary pipette to a glass slide. The amœbæ were fine specimens and were exceedingly active. Most of the larvæ were dead; a few were alive. In one large, dead larva over a score of amœbæ were found actively swimming to and fro just within the external capsule of the larva and upon its ventral surface. Here they had made for themselves a wide channel in which they moved about with great freedom, the channel extending for almost the entire length of the larva along its ventral surface. The amœbæ were very active in their endeavors to effect an escape, but, although under observation for over an hour, not one succeeded in doing so. Of the scores of amœbæ that hovered about the larva on the outside, not one effected an entrance, although they endeavored to do so.

Another instance going to show that this amœba may become a parasite within other higher water organisms is the following: The organic matter in a litre of hydrant water was concentrated into a few drops in the usual way. In one of these drops, placed between a slide and cover slip, was found a *Microcodon clavus.* Its movements were so rapid that it was impossible to keep it at all times in sight. It was, however, possible to keep it under observation for the greater part of the time. It was perhaps twenty minutes after it had first been sighted, and while in full career across the microscopic field, that it came suddenly to a full stop. From the manner in which the cilia were extended, it was at once seen to be dead. Now a most curious thing was observed. While about half its mass was perfectly motionless, dead in fact, the other half, which was in the form of a sphere, was moving slowly and evenly round in a circle within the dead mass. The organism seemed to be dying by integral parts. The revolving round body within, moving in the line of a perfect circle, brushed throughout its entire periphery against the mass of dead matter without. Within the living sphere were granules in constant motion. Gradually the sphere assumed an elliptical form, the smaller end of the ellipse cleared of granules, and, as it continued to circle round and round, would at intervals be pushed outward as if to penetrate the mass of dead matter which formed a barrier that effectually shut in the mass of living matter.

This was kept up for almost half an hour. Suddenly an opening was forced through the wall of dead matter and there passed through it and out into the clear surrounding field a living amœba! It moved about with all the ease and freedom characteristic of a perfect amœba, having apparently suffered no injury from its confined position within a host little larger than itself and which had carried it with rapidity through the water on the microscopic field until the microcodon suddenly stopped, dead. The amœba had left it lying upon the field a mass of disorganized matter. Here it had entered its host while the latter was yet alive. Although this is not proved in the case of the larva, yet it is almost certain that the score or more of amœbæ had entered their host while the latter was still alive and had made their way from the alimentary canal outward, to where they were found, having been stopped only when they had reached the external integument of the larva.

The elasticity of the ectosarc enables the amœba to adapt itself to the form of the cavity in which it may happen to be compressed, no matter how irregular the cavity's walls. If it chances to be surrounded by organic matter with a narrow channel leading from its place of imprisonment, it will force its way through the channel. The head precedes, and, as the body molds itself to the narrow, tortuous passage, it is drawn out to the required length. All parts of the endosarc are constantly shifted all the while, as is seen from the continuous movement of the granules. When the obstruction has been passed, the amœba immediately resumes its usual elliptical form.

The degree of attenuation the ectosarc is capable of sustaining without bursting was shown by the following: The organic matter in a litre of hydrant water was collected and mounted in the usual way. An amœba was shifted to the centre of the field, and the tube quickly backed down for the purpose of bursting the ectosarc. So much pressure was used that the slide bent slightly under it. The tube was immediately backed up again for the purpose of noting what had been contained within the ectosarc. Two large-sized ovules and a few granules were all that could be seen. Then a surprising thing occurred. After a considerable time some granules were seen to shift their position slightly. After a while this was repeated, when it was seen the ectosarc was still intact, but spread out over an area many times that originally covered by the amœba. When it is remembered that two superimposed capsular layers that had been the ectosarc of so small an organism were spread out over so large an area, it is seen how remarkable was the degree of attenuation of the ectosarc. The contractions were repeated more and more frequently. During the intervals between the contractions, the entire mass remained perfectly inert. Finally, the amœba fully recovered itself and moved away, apparently none the worse for the severe crushing it had received. All that could be seen on its former site were the two large ovules that had been forced through the ectosarc.

This conveys some idea as to the amount of mechanical resistance this organism may sustain, and yet live. It shows, too, what a power it possesses to penetrate tissue the meshes of which are alternately obliterated and enlarged. At the other extreme is the amœba, the ectosarc of which is so fragile that it will burst if but a cover slip be carelessly permitted to fall upon the drop of water containing the amœba.

The Amœba Ciliaria as a Facultative Anaerobe.—The presence in water of the coccus, the monad, the bacillus, and the amœba shows them to be aerobic. It is easily shown that they are, at least some of them, facultative anaerobes.

A drop or two of hydrant water was placed between a slide and cover slip. The edges were sealed with paraffin. This specimen was found to contain numerous cocci, numbers of monads, some amœba still retaining the filament, several fragillaria, a few bacillaria, two small naviculæ, three *Asterionellæ formosæ* (one double), and one *Vorticella convallaria*, the body severed from its stem, but lying in close proximity to it.

This specimen was examined from time to time and the growth of the various organisms noted. The cocci multiplied rapidly, forming clusters of a circular form. In a few months it was seen that in some instances the substance uniting a diplococcus would persist, and a number of diplococci would be joined to each other, forming a chain containing from four to six up to ten individual cocci, the chain appearing like one of streptococci. The rounded clusters bore a marked resemblance to the staphylococcus as it is seen in nutrient media. Seven months after this specimen had been mounted, numerous cocci were alive and as active as ever, showing this organism to be a facultative anaerobe, having been shut in from atmospheric air for that length of time.

The amœbæ present were in that stage of development when they still retained the filament. Seven months afterward they were found to be as active as on the day when they were mounted, although the motile forms were fewer in number. Some of them developed a very fine tint of red, blue, or green, although this specimen had been all these months shut in from light in a closely fitting box, except when removed for the purpose of examination.

This specimen was mounted June 1, 1898. At this writing (March 9, 1899) the only water left is a narrow strip near the edge of the cover glass, extending for some distance along the periphery, but not reaching beyond that quadrant. In this narrow strip are now a fragillaria, numerous bacilli, some monads, and several groups of ovules of the *Amœba ciliaria.* These last are very fine specimens of the amœba as it is seen after the ectosarc has burst and before the ovules are dispersed. They show that as an anaerobe the amœba may complete its cycle of existence. They also show that as an anaerobe it multiplies rapidly. It is therefore a true facultative anaerobe.

A principal feature of this specimen at this time is the presence of the bacilli. No bacilli were to be seen as late as December 22d, nor for any day of the two hundred and five days since June 1st. The question is, Where do they come from, and what are they? An attempt will be made to answer this later on.

The nutrient medium greatly modifies their form. If adult amœbæ are put into water slightly acidified with acetic acid, then neutralized or made slightly alkaline with sodium hydrate, in from a month to two months no adult amœbæ will be found. In their place are the young, not of an elliptical but of a much elongated form, the filament not having disappeared but grown into a powerful proboscis one third as large at its proximal end as is the body of the amœba in its greatest diameter, a small cilium having developed at the opposite extremity. These are its locomotive and prehensile organs, a floating body being quickly seized, the cilia being approximated first on one side, then on the other, with great dexterity. This is the form of the *Amœba ciliaria* that is found in dysentery.

If adult amœbæ are put into a fresh infusion of potato, all motile forms will after a time, as the alkalinity of the infusion deepens, disappear. In their place will be found the ovules. These are of uniform size, of the dimensions and appearance of pus corpuscles, and would be liable to be mistaken for such if found in the urine. A careful inspection will show the very well defined and regular outline of the ovule membrane, the sphere of young amœbæ within, and the clear interval free from granules between the two.

The Amœba in Disease.—This organism is found in hydrant water in spring and in autumn, in summer and in winter, in the hot summer months of July and August as well as in the cold winter months of December and January.

It is found every day in the year, and it is not a high estimate to say that the man who drinks a litre of hydrant water for each twenty-four hours, swallows on an average not less than a score of amœbæ in various stages of development every day. This statement is based upon a series of observations made almost every day for a year upon the organic matter collected daily from a litre of hydrant water.

In a number of acute infectious diseases, this amœba has been found in the blood, in the sputum, in the watery evacuations from the alimentary canal, and in the urine. Among these diseases are typhoid fever and purpura hæmorrhagica.

Typhoid Fever.—In a recent case of typhoid fever, the amœba in its resting form was found in the blood and in the urine. Small round bodies, ovules of the amœba, were found in the blood, mingled with the corpuscles. A more significant find, however, was a full-sized amœba, in its resting stage, with well-defined capsule, an elliptical body of ovules within, and a clear space between the two. It presented the appearance of the resting amœba as it is seen in very cold water, except that instead of the highly refractive nucleus, there was the nucleus of developing amœbæ, the individuals of which could already be made out. This was found in a drop of blood removed from the ear. No bacilli were found in this body.

In a drop of blood removed from a rose spot some ovules were found and a few bacilli, but it is not certain they were the typhoid-fever bacilli, though they bore a resemblance to them.

From a papule on the back, a drop of blood was removed. This was especially rich in "white blood-corpuscles." One clump was found that looked as if the corpuscles had been confined within a capsule and the latter had burst without their arrangement having been disturbed.

Amœbæ with capsule intact were found in the urine. Most of them, when the capsule was dissolved, were found not to contain bacilli, but a few contained them. The question is, Were they the typhoid-fever bacillus? In size, form, and activity they closely resembled it, but they lacked the highly refractive properties characteristic of that bacillus. It is probable that transitional forms are found free in water, but that the typical bacillus is seen only shortly after it has made its escape from its host, it being unable to long retain its capsule free in water.

It probably acquires its peculiar refractive properties while resident within its host, and then only after it has been present for a considerable time. It is possible the typhoid germ enters upon its existence as a parasite while it is yet a spore. "It is almost universally believed that, as a rule, typhoid bacilli do not have any permanent, independent existence outside the human body." (Strümpell.)

The bacilli present in the specimen mounted June 1st possessed a highly refractive body and were first seen over nine months after air and light had been excluded.

Although previous to the attack the patient had enjoyed robust health, a remarkable feature of the case was the very large number of white blood-corpuscles present. It is just possible these bodies were not all white blood-corpuscles.

The clinical symptoms were those of typhoid fever. There was the typical temperature curve with its morning remissions and evening exacerbations, and a maximum temperature of 105° F. There was excitement bordering on delirium. There was gurgling in the right iliac region with tenderness, enlarged spleen, and epistaxis. The stools were characteristic, thin, yellowish, and very offensive. A number of rose spots were to be seen. The attack lasted three weeks, at the end of which time there was great emaciation. With recovery came a voracious appetite.

In the case of a young man who died from typhoid fever, ovules of the amœba were found in abundance, over a year afterward, in a specimen of the urine that had been preserved. It was strongly alkaline. No other organisms could be found.

(*To be concluded.*)

TYPHO-MALARIAL FEVER.*

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I HAVE chosen for discussion to-night a subject which has often been debated, and which may appear to some of you rather hackneyed. I refer to the so-called "typho-malarial fever." It is a subject on which all of us do not agree, and on which much has been written in the past year. It especially concerns all physicians practising in this climate, as the first American cases described were contracted in Virginia. As there seems to be a marked difference between the diseases described in Europe and in America as typho-malarial fever, I will confine myself to a discussion of the term as used in this country, along with some reference to the most recent reports on the subject.

Although a combination of typhoid and malarial fevers seems to have been described in Europe as early as the beginning of this century, the term was first introduced into America at the time of our civil war, when it was used to cover a class of fevers from which the Army of the Potomac suffered a very great deal. These fevers were most marked in the Peninsular campaign and were likewise designated Chickahominy fever. The term typho-malarial fever was introduced into medical literature by Woodward in his work on *Camp Diseases* (1863).

Woodward's diagnosis was eagerly accepted by the physicians of the time, and indeed seems to have been undisputed for twenty years. Flint, for instance, says in 1866: "Typho-malarial fever is caused by the combined action of malaria and the special cause of typhoid fever, remittent and typhoid fevers being thus associated." In Reynolds's *System of Medicine* (1872) Harley says: "We unhesitatingly conclude that enteric fever is often a part of intermittent fever, and the converse." Harley, an Englishman, does not claim to have seen cases of this fever, but makes the foregoing statement almost entirely on Woodward's authority.

We must remember that the authors quoted wrote before Koch had made those discoveries which in reality laid the foundations of modern medicine, and that, having nothing more than the general symptoms of the patient to rely upon, they could not prove their assertions; nor, on the other hand, could their assertions be attacked with any chance of success. There were cases which differed from the typical forms of both typhoid and malarial fevers, yet resembled both in many respects; why not call them typho-malarial fever? Thus it remained until, in 1880, Eberth discovered the typhoid bacillus, and Laveran, in the same year, the *Plasmodium malariæ.* These two discoveries formed the point upon which must rest the proof of the very existence of this disease. For if, as Flint says, "it is caused by the combined action of malaria and the special cause of typhoid fever," we must find in autopsies performed on these cases both the typhoid bacillus and the active malarial plasmodium, together with the changes known to be produced by these two organisms when acting alone—*i. e.*, the typhoidal ulcers and the malarial changes in the blood. Such a case has been, and still is being, diligently sought after, but no such case has yet been reported.

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* Read before the Norfolk Medical Society, April 11, 1899.

There soon arose a set of men who called for such proof before allowing the existence of typho-malarial fever; while its partisans replied: "If there is no such disease, what then causes these symptoms?" One single autopsy is enough to prove that this disease can exist. But until this positive proof is found no amount of conjecture, no amount of resemblance to the symptoms of the two diseases (malarial and typhoid fevers), can establish its existence. On the other hand, the question propounded by those who maintain that such a disease exists must be answered, its symptoms must be explained, and it must be shown that they can be caused *without* "the combined action of malaria and the special cause of typhoid fever."

Before attempting this, let us see how such a confusion arose. Let us look at typhoid and malarial fevers separately. These two diseases, while absolutely distinct when running typical courses, so often vary and so often approach each other in their symptoms that it is at times extremely difficult to make a diagnosis between them. This applies especially to typhoid fever, which has a different form for almost every locality, and which departs most from its recognized form in those very localities in which malarial fever exists. So marked is this, that until quite recently it was denied that typhoid existed in the tropics, while it is now acknowledged to be very common there, *only* it departs from the typical course laid down for it in the textbooks. Such an atypical typhoid, without the rash, without delirium, with a continued, though not a typical fever curve, and perhaps with some chills and rises of temperature toward the end of its course, can well be, and often is, mistaken for malarial fever. On the other hand, malarial fever, especially the kind caused by the æstivo-autumnal parasite, which usually is of the remittent or continued type, can be accompanied by diarrhœa, vomiting, a dry tongue, and perhaps by delirium. Thus it closely resembles typhoid fever. Can, then, our predecessors, without a full knowledge of the pathology of the two diseases and with nothing but symptoms to guide them, be blamed for shirking the diagnosis, and putting all such forms under one head with the convenient term typho-malarial fever to designate them all? But what applied to physicians twenty years ago does not apply to us now. When we now are in doubt about a fever's being malarial or not, we search for the plasmodia, which can always be found in the blood of patients with an active malarial fever, though at times several examinations must be made before they are discovered. In typhoid fever, too, we have a valuable aid in the Widal reaction, the chief objection to this reaction being that it can not be obtained till after the first week of the fever. These two tests should always be tried in suspicious cases, and without them *no* reported case of typho-malarial fever is of value.

Most cases formerly called typho-malarial fever seem to have been nothing more or less than atypical cases of typhoid fever, all cases of this disease which in their course showed an irregular temperature curve or chills being classed as a mixed infection. But that this is not necessarily the case is shown by the fact that typhoid fever, occurring in countries where no malarial fever is found, very often has these intermittent chills toward the latter part of its course. I may well quote Thayer on this subject. "It is very important to recognize the fact that intermittent fever with chills is not an infrequent symptom in typhoid fever, particularly during defervescence and convalescence. These intermittent chills, however, in the great majority of cases have no connection with malarial fever. They are due to secondary infections or to auto-intoxications of a nature as yet unknown." There are also cases of malarial fever which run a continued course, being produced by either two or more sets of the tertian parasite or by the æstivo-autumnal parasites, which do not develop in the same regular way as the tertian. These cases are often called typho-malarial fever, though not so often as the atypical typhoids. They respond to treatment by quinine, often first going into intermittent fever, one set of parasites being killed before the other. They, of course, have no relation to typhoid fever.

On the other hand, we know that the *Plasmodium malariæ* may remain for a long time dormant in the blood, producing no symptoms whatever till the general health of the individual is reduced by some other cause. This is often observed in people who move from a malarious district into the mountains. At home they had not suffered from malarial fever, but the change of climate and fare is enough to bring on an attack. Now, may not typhoid fever in such a subject, by causing loss of bodily resistance, allow the hitherto dormant plasmodia to develop? If typhoid fever acts in this way, we would be most apt to get malarial symptoms toward the end of the disease, when the patient is convalescent; as time must be allowed for the reduction of the general vigor of the patient, and after that time for the organisms to multiply sufficiently to produce the fever. Such an attack, however, could not be looked upon as a mixed infection, the two diseases being entirely distinct, but as simply a coincidence, the chief and real disease being typhoid fever. Again, if at the beginning of an attack of typhoid fever malarial paroxysms occur, and if the symptoms and the organisms are made to disappear by the use of quinine while the typhoid runs its usual course, we have two synchronous diseases with no direct connection. The two diseases would be no more dependent upon each other than gonorrhœa and phthisis in the same subject, and have no more right to be classed as one disease.

As we mentioned before, the term typho-malarial fever was introduced to explain the disease which caused such havoc during the civil war. Thus the fevers which attacked our armies during the Spanish war have furnished material for a further thorough investigation on this subject. If there is such a disease, it would certainly have appeared among the numerous fever cases in the various camps and hospitals. Here it was searched for by some of the best men in the country, and their reports seem to me to be almost conclusive.

The most interesting of these reports seems to be that of James Ewing, who made the blood examinations at Camp Wikoff. Here he had the soldiers who had been through the Santiago campaign and who presented malarial fever in its worst form, as well as typhoid fever. Altogether he examined eight hundred cases of malarial fever. I think his report is valuable enough to quote from at length.

"Forty cases were reported as cases of *typhoid fever in anœmic and malarious subjects.* In some of these cases the disease began with one or more short rigors repeated on successive days, after which the disease progressed with the usual symptoms of typhoid fever. In one case the usual history of Cuban malaria was interrupted by the development of typhoid fever with all essential symptoms. Plasmodia could not be found in the blood, but in the second week of convalescence tertian chills and fever supervened and tertian parasites were found in the blood. Other cases illustrated the same behavior of the malarial infection during the course of typhoid fever. Two fatal cases of typhoid fever in malarious subjects came to autopsy. No parasites could be found in the blood during life, but in smears from the spleen and marrow diligent search revealed the presence of a few rings and crescents, with much old malarial pigment." The blood from a hundred and fifty-nine cases of typhoid fever with intermittent character of fever was examined. "In no case of undoubted and established typhoid fever were malarial parasites found in the blood in connection with any of those sudden rises of temperature, but only at the onset of the disease or during convalescence.

"On the other hand, many patients whose blood contained numerous parasites were seen in the 'typhoid state,' but there were always some essential symptoms lacking to confirm the diagnosis of typhoid fever, while the subsequent course of the disease, when observed, demonstrated the purely malarial character of the fever.

"In the cases which came to autopsy there was never any doubt of the disease. It was either typhoid fever or malaria, but never both, although microscopical evidence of dormant malarial infection was found in at least two cases of typhoid fever. In short, in spite of painstaking effort, the attempt to find a case of typhoid fever and active malaria progressing simultaneously was unsuccessful."

Ewing's report is corroborated by the observations of other physicians. Thus in the reports on typhoid fever among the soldiers treated in the Philadelphia hospitals, J. C. Wilson states that malarial organisms were found in the blood of typhoid patients, but malarial symptoms did not appear until convalescence. They were then cured by the use of quinine. Tyson found the plasmodia in the blood of two cases convalescing from typhoid fever. Alfred Stengle likewise found the tertian parasite in two cases during convalescence. J. M. Anders examined two hundred and sixty-six patients, but found no combination between typhoid and malarial fevers, though the plasmodium was diligently sought for. Da Costa found the tertian malarial organism in the blood of ten cases of typhoid fever; the malarial symptoms seem to have developed during convalescence.

William H. Thomson, speaking before the New York County Medical Society, said: "The cases of mixed infection with typhoid and malaria ran the usual course of typhoid fever, and were treated without quinine. Two of the patients, after being fairly convalescent from typhoid fever, had an attack of chills and fevers, which soon yielded to treatment. During these attacks the plasmodium had reappeared in the blood."

Gilman Thompson reported seventeen cases of mixed infection. The plasmodium remained quiescent during the course of the typhoid fever or until a few days after the convalescence had begun; the effects of the malarial poison then became manifest. (Some years ago the same authority reported one case in which a malarial chill occurred during the third week of the typhoid fever. This was controlled by quinine, and the typhoid ran its usual course.)

George Dock, in a recent paper on Typho-malarial Fever, so called, says: "I have examined many suspected cases, many of them pronounced typho-malarial fever by physicians of high standing, but so far have failed to find a case of mixed typhoid and malarial infection. A number of autopsies were made, but without revealing latent malaria. This experience was obtained partly in Texas, partly in Michigan, and more recently in army hospitals at Chickamauga, Knoxville, and Camp Meade, Pennsylvania."

Lyon, in an article entitled Combined Typhoid and Malarial Infection, collects cases reported in this country and abroad, as well as reporting a case of his own. This case shows the malarial symptoms at the beginning and during the convalescence of the typhoid and not during the course of the latter disease. It does not differ from the other cases reported, though this author, basing his conclusions more on possibilities than reported facts, draws rather different deductions from the others.

I will content myself with these very recent statistics, even omitting such men as Osler and Thayer, with whose works you are all well acquainted. I trust you will excuse me if I add a short report on two cases which came under my observation last summer.

Case I.—The author saw this patient in consultation with Dr. E. E. Feild, to whom he is indebted for the following history:

Patient, a soldier in the infantry, was taken with a chill while working in the trenches around Santiago. Was from his own accounts extremely ill in Cuba, but recovered sufficiently to return to this country. He did not stay in Camp Wikoff, but after staying a few days in New York city came to relatives in Norfolk. He arrived in poor condition and was attacked by intermittent fever on August 27th. There were the chill, fever (temperature reaching 105° F.), and sweating. On the following day no fever. Spleen large and tender. The blood showed pigmented tertian malarial organisms both within and without the red corpuscles. This attack responded to treatment by quinine.

On September 13th I was called in again to see patient, who two days previously, after very imprudent eating, had been taken with a chill, followed by fever, sick stomach, diarrhœa, and pain in the abdomen. The fever continued with daily exacerbations for several days; he had some delirium and a dry, coated tongue. At this time a blood examination showed two sets of tertian parasites. Quinine was given, but the fever continued, although it now showed a more regular curve. On September 29th a positive Widal reaction was obtained. The fever then ran the course of typical typhoid fever, the rose spots appearing. On October 19th the fever had disappeared. On October 23d patient again had a chill, followed by fever and sweat. The malarial organisms were again found in the blood. Quinine was administered and the patient convalesced without return of fever. The malarial organisms here were active at the beginning of the fever, remained dormant during its height, and again showed activity during convalescence.

Case II.—This case, while not so marked as the one just reported, and not so carefully studied, is of especial interest because it was contracted in this section. The patient was only seen once by the author in consultation with Dr. Ruffin.

Four days before, the patient, a healthy young man, had had a slight chill, followed by fever; the next day there was a remission, but not a complete intermission. The fever then became very irregular, but did not in the first few days rise above 103° F. When seen by the author the patient was restless, complained of headache, bowels were constipated, the spleen was enlarged, his temperature 103° F. A blood examination showed pigmented tertian parasites within the red cells. The Widal reaction could not be obtained. Quinine was administered and the fever dropped, but not quite to normal. Afterward it rose gradually, and the patient developed a case of typhoid fever, from which he recovered without a return of the malarial symptoms. I am sorry to say that the Widal reaction was not tried later in the disease. In this case malarial and typhoid fever coexisted at the beginning of the latter disease. But the malarial fever was easily eliminated by the use of quinine, while the typhoid continued its course.

In summing up these reports we find that typhoid fever may occur in an individual who has already dormant malarial organisms in his blood; that these organisms produce symptoms either at the onset or during the convalescence of the typhoid fever; that they remain quiescent during the course of that disease (only one case to the contrary); that the early malarial symptoms may be checked by quinine without influencing the course of the typhoid fever; and consequently that the two diseases should no more be classed as a "mixed infection" than typhoid fever and measles occurring in the same person.

Before concluding, it would perhaps be well to look more narrowly at the term typho-malarial fever, and see what conditions would justify its use. There seem to be only three such conditions possible:

1. *A Distinct Disease.*—That is, one caused by an organism distinct from the malarial plasmodium and the typhoid bacillus. No one now maintains that such a disease exists.

2. *A Mixed Infection.*—Here the two diseases must be so intimately blended that they in reality form a new disease. No evidence of such a blending has yet been found, though thousands of cases have been examined.

3. *As Two Coincident Diseases.*—Here typhoid and malarial fevers simply coexist as two independent diseases. We have seen that this really does occur in some instances. But is this connection sufficient to justify a new name? The malarial symptoms under such circumstances occur either at the beginning or during the convalescence of the typhoid fever, but remain quiescent during the course of the latter disease. They are usually easily controlled by quinine, while the typhoid fever continues its usual course. In this connection, as Dock says, "there is no more reason to speak of a mixed infection than there would be in a simple case of pneumonia to speak of a mixed infection because streptococci were found in the mouth."

We have seen, on the other hand, that the term typho-malarial fever is used here in America to describe no fewer than three distinct conditions or diseases which have certain points of resemblance. At least two of these uses must of necessity be incorrect. The great majority of such cases seem to be nothing more nor less than atypical typhoid fever, entirely without malarial complications—here the term is absolutely erroneous. The next group of cases is a continued form of malarial fever—here the term is equally erroneous. The third and much the smallest class may well be designated typhoid fever occurring in a malarious subject. Here the typhoid fever, the stronger disease, so conceals the malarial symptoms that they appear only at the beginning or at the end of the typhoid fever. While it would be incorrect to state that the symptoms of the two diseases could not occur at the same time, still the two diseases seldom if ever do run their courses in unison. When they occur in the same person they occur as two distinct diseases, each absolutely independent of the other, and they can not with any degree of accuracy be classed as one disease.

Besides the love of accuracy, which ought to be enough to deter physicians from using an incorrect term, other more practical considerations arise. If one diagnosticates a case to be typho-malarial fever, one is apt to continue the quinine treatment throughout the course of the disease. This in a case of uncomplicated typhoid fever will do no good, and perhaps much bodily harm to the patient. According to the best authorities, this treatment should not be continued more than three days without further evidence that malaria exists. Thayer, for instance, says:* “There is no excuse for cinchonizing an individual with continuous fever, who after three or four days shows no change of symptoms, while the blood is free from malarial parasites.” Then the diagnosis of typho-malarial fever gives the laity an impression that they have to deal with a disease of milder character than typhoid fever, the term implying to them merely a variety of malarial fever. This is certainly not fair to the patient and his family. There seems indeed to be only one excuse for a physician’s using the term in its ordinary sense—that is, when he himself, unable to make a diagnosis, wishes, in the slang of the day, to “hedge.” No one would commend such a use of the term.

When malarial fever exists with typhoid, it is merely a complication, without intimate connection. One can be eliminated, while the other runs its uncomplicated course. Therefore we must conclude with Thayer that “there is no such disease as typho-malarial fever in the ordinary sense in which the term is used. The term is incorrect and misleading, and should be abandoned.”

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 23d inst., Dr. H. C. Fairbrother read a paper on Syphilitic Meningitis, and Dr. Bransford Lewis exhibited genito-urinary pathological specimens.

A THIRD REPORT RELATING TO

THE HEATED-BLOOD TREATMENT OF CROUPOUS PNEUMONIA.*

By CARL E. ELFSTROM, M.D.

Case VII.—Girl, nine years of age.

January 17th.—Headache and fever. In the night, between the 17th and 18th, she had some epistaxis; on the 19th, severe bleeding from nose and mouth.

20th.—Consolidation of lower lobe on right side; no râles. Leech applied and the blood taken, diluted with salt solution, was heated to 140° F. during two hours; then injected subcutaneously at 4 p. m. The pulse was then very weak, 140; respiration, 54; temperature, 103.2° F.; urine gave slight reaction to albumin test. 9 p. m.: Patient apparently improved. Pulse full and soft, 120; temperature, 101.5° F.

21st, 10 a. m.—Temperature, 100° F. The respiratory murmur weaker over lower lobe; signs of consolidation in the upper lobe. Pulse, 100–110. 4 p. m.: More severe epistaxis. Pulse, 100–110; temperature, 99.5° F.; respiration, 40. Cough loose, with mucopurulent expectoration. Pain entirely disappeared, even when coughing. Tongue clear at apex and edges.

9 p. m.: Very strong epistaxis. Pulse, 100–110; temperature, 97.6° F.

22d, 9 a. m.—Pulse, 100; temperature, 101.5° F. Subcrepitant râles; no albumin reaction.

23d, 10 a. m.—Temperature, 99.8° F.; pulse, 100. Subcrepitant râles. 9 p. m., temperature, 99.8° F.; pulse, 100.

24th, 10 a. m.—Temperature, 98.8° F.; pulse, 100. Râles. Patient looks well and strong.

25th, 12 m.—Temperature, 98.8° F.; pulse, 90. No albumin reaction. The disease apparently cured.

Case VIII.—Boy six years old. In May, 1898, had measles complicated with broncho-pneumonia; he was taken sick January 26, 1899, with acute croupous pneumonia.

January 29th.—Consolidation of right upper lobe. 9 p. m.: Temperature, 100.5° F.; pulse, 120; respiration, 48; no albumin in urine. Leech applied and the blood taken, diluted with salt solution, was heated to 140° F. during two hours; then injected subcutaneously at 9 p. m.

30th, 10 a. m.—Temperature, 101.2° F.; pulse, 120; respiration more tubular; no albumin. 6 p. m.: Well-marked change for the better. Less dyspnœa. Pulse, 100; temperature, 103° F. 11 p. m.: Twenty-six hours after injection, temperature, 99.2° F.; pulse, 100. Subcrepitant râles.

31st, 10 a. m.—Pulse, 98; temperature, 100.2° F.; numerous subcrepitant râles. 9 p. m.: Temperature, 102.8° F. Consolidation seemed to have increased. Râles less numerous.

February 1st.—Temperature, 98° F.; pulse, 72. Numerous subcrepitant râles. Disease apparently cured.

A curious fact in this case was that the disease, which seemed past crisis in the evening of the 30th, that is, about twenty-four hours after the injection, took a fresh start in the evening of the 31st, only to be subdued for good the same night.

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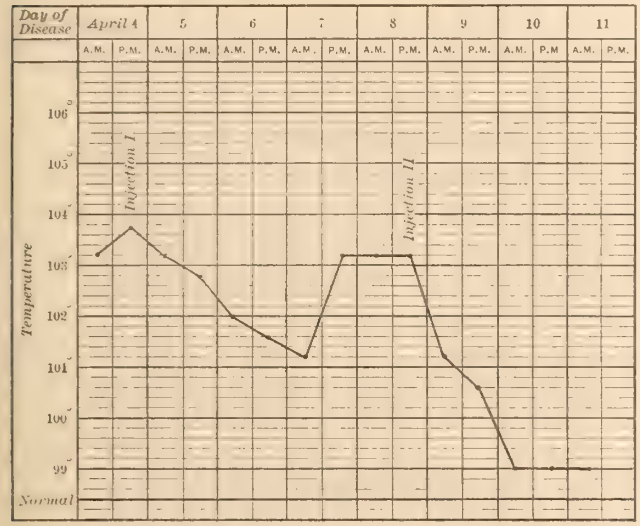
* For Cases I to VI see *New York Medical Journal,* August 27 and October 15, 1898.

Case IX.—Man, aged thirty-two years. He became ill with chills on the morning of April 3d.

April 4th, 12 m.—Congestion of the whole left lung and lower lobe of the right. Cyanosis. Pulse weak, 120; respiration, 39; temperature, 103.8° F. Leech applied and the blood taken, diluted with salt solution, was heated to 140° F. during two hours; then injected subcutaneously at 4 p. m. At 9 p. m. same day, no change. Temperature, 103.7° F.

5th, 12 m. Consolidation of the lower lobes on both sides. Auscultation still showed a certain amount of congestion over the left upper lobe. Subcrepitant râles over the consolidated parts. Respiration, 20; pulse, 120, stronger; temperature, 103.2° F.; cyanosis disappeared. The change took place about midnight, eight hours after the injection. At 9. p. m., same day, pulse, 110; temperature, 102.8° F.

6th, 12 m.—Pulse, 110; temperature, 102° F.; some albumin. 9 p. m., temperature, 100.5° F.



7th, 12 m.—Beginning consolidation of the left upper lobe. Temperature, 101.2° F. At 9 p. m., pulse, 130; temperature, 103.2° F.; cyanosis commencing.

8th, 9 a. m.—Left upper lobe fully consolidated. Marked cyanosis; respiration, 40; pulse, 150. Condition apparently alarming. Decided to give a second injection. A leech was applied and the blood treated by heating, as before, and injected at 1 p. m. Temperature then 103.4° F. At 9 p. m. slight change for the better. Temperature, 103.2° F.

9th, 12 m.—Subcrepitant râles over the left upper lobe. Respiration, 20; cyanosis disappeared; pulse, 110, strong; temperature, 101.2° F. At 9 p. m., temperature, 100.6° F.

10th, 12 m.—Temperature, 99° F.; pulse, 92.

11th, 12 m.—Temperature, 99° F.; pulse, 90. Albumin disappeared. Normal convalescence.

I wish to draw attention to the large portion of the lungs involved in this case, with the appearance of cyanosis as early as twenty-four hours after the attack, and the promptness with which the fever and the alarming signs were subdued after each injection.

This case is the only one in which I gave two injections, and, judging from this, it seems that Case VIII especially would have profited by a second injection.

Of my nine cases reported, two died. As these latter already *before* the injections gave unmistakable signs of meningitis, I protest against these two cases being counted (as has been done) in calculating the percentage of cure, which in reality, up to the present, has been one hundred per cent. In each of these two cases the injection was made only to ascertain its action on the lungs, without any intention to cure.

Therapeutical Notes.

Pills for the Headache of Neurasthenics.—The *Riforma medica* for July 24th gives the following formulæ:

1. ℞	Zinc phosphide	0.23 grain;
	Reduced iron	3 grains;
	Extract of nux vomica	1.8 grain.

M. Divide into eight pills. Two or three to be taken daily.

2. ℞	Zinc valerianate, Iron sulphate, Extract of rhubarb, Asafœtida,	each.... 18 grains.

M. Divide into twenty pills. One to be taken three times a day.

A Powder for Condylomata.—*Riforma medica* for July 17th gives the following:

℞	Calomel	30 parts;
	Boric acid	15 "
	Salicylic acid	5 "

M.

The condylomata to be powdered therewith two or three times a day.

Raw Meat as an Aphrodisiac.—Dr. P. C. Remondino (*Pacific Medical Journal*, September), in Some Observations on the History, Psychology, and Therapeutics of Impotence, says that he has found a raw-meat diet highly beneficial in some cases of anaphrodisia, especially when occurring in one of a timid or anæmic nature.

A Hypnotic.—Dr. F. Marz (*Province médicale*, September 2d) gives the following combination:

℞	Trional	15 grains;
	Powdered codeine	½ grain.

For one powder. To be taken at bedtime.

For Flatulence.—The *Union médicale du Canada* for September gives the following:

℞	Beta-naphthol	2 grains;
	Poplar charcoal	8 "

The powder should be taken immediately after meals to avoid dyspeptic fermentation.

A Mixture for Cardiac Dyspnœa.—The *Riforma medica* for July 29th credits the following formula to G. Sée:

℞	Chloral hydrate	2 to 4 parts;
	Potassium iodide	1 to 2 "
	Julep	120 "

M. S.: A teaspoonful every hour.

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A MEDICAL STRIKE.

It is abhorrent that trade unionism in any form should have found shelter within the medical profession, but it seems to have come as a matter of necessity to some of our English brethren. The *Lancet*, in its issue for August 26th, publishes its special commissioner's account of certain disagreements between the pitmen of the Wigan and District Miners' Permanent Relief Society and the Colliery Surgeons' Association which have culminated in what amounts to a strike on the part of the surgeons composing the association. The miners, it appears, have recently been deprived of their employers' contribution to their accident relief fund, by reason of legislation making it no longer to the employers' interest to contribute. It is on this account that they have organized their society, and like societies have been formed in connection with every colliery. They are spoken of as accident clubs, and their object is to provide medical attendance for miners who may be injured in the performance of their work. Each club, says our contemporary editorially, is supported by weekly contributions from the men, and its affairs are managed by a board. Out of the funds, a sum amounting to about sixty-two and a half cents annually for each member is set apart for medical fees. The board appoints as many surgeons as it requires to attend to accident cases, and at the end of the year the entire sum is divided equally among those attached to each pit. In case of accident it is the nearest surgeon who is almost always summoned, so that a surgeon living near the pit has to do the bulk of the work, while his fellow-surgeons get each as much remuneration as is allowed to him. This inequality of payment is the doctors' grievance. They ask to be paid by the case, at the rate of fifteen shillings a year.

It is for this that the surgeons have been on strike, so to speak, since some time in July; that is to say, they have resolved not to attend any member of the relief society for accident on any terms, unless some satisfactory arrangement is made. In the mean time the society has endeavored to import surgeons who will accede to their terms, payment of about sixty-two and a half cents per annum for each man, but has succeeded in only one instance. Much as we deprecate trade unionism, we join our contemporary in the hope that that one imported surgeon "will, on further deliberation, join the rest of his professional brethren in attempting to right a grievous wrong."

THE QUESTION OF OUR DANGER FROM THE ORIENTAL PLAGUE.

Appletons' Popular Science Monthly, in its September number, has done what we look upon as a distinct service to the public by publishing an article by Professor Victor C. Vaughan, of the University of Michigan, entitled Are We in Danger from the Plague? It is because Professor Vaughan's conclusion is so reassuring, and because the magazine in which it is expressed is so generally recognized as furnishing its readers with nothing on such questions that is not as near authoritative as human opinions concerning the future may be, that we make this statement. The recklessness and mendacity of certain newspapers may arouse anxiety, but the people will always listen to the sober teaching of the experienced observer.

Professor Vaughan starts with a sketch of the outbreak of the present visitation of the plague in Bombay and its spread over practically the greater part of western British India, and describes again the notorious neglect of the most obvious sanitary measures among the native populations of India, alluding to the extraordinary difficulties that beset official sanitation in that country owing to differences of caste and to religious prejudices. From these considerations, together with the practical failure thus far of all forms of curative serum and the great probability that only the intelligent will avail themselves of Haffkine's preventive inoculation, the author is inclined to think that the disease will prevail in India until it is exhausted by lack of susceptible material to feed upon. Will it find its way to Europe? It would not be surprising, he thinks, if it should reach Constantinople. Thence its spread seems reasonably sure of prevention by carrying out the provisions of the Venice Congress and by the measures that the various European governments, acting individually, are certain to take. At the same time, he questions the sufficiency of relying on the assumption that the period of ten days covers the incubation of the disease, and he gives instances that appear to sustain his objection.

If the plague is to reach the United States, it will, he thinks, be by way of the Pacific coast, proceeding from Hongkong to Manila and thence to our own shores. But the voyage from Manila to San Francisco is so long that infection on a vessel making the run would be almost certain to manifest itself before California was reached, and, the presence of the disease being known, thorough inspection and disinfection would keep it out of the country. All transports and other vessels plying between Manila and the United States, says Professor Vaughan, should be provided with proper disinfecting apparatus. The government, he adds, should supply the Marine-Hospital Service with every medical equipment, and if this is done, he declares, the plague can enter America only by reason of incompetency in that service—an incompetency, we may say, not at all likely to occur. He closes by pointing out that careful watching of our intercourse with Japan must also be carried out, for that nation controls Formosa, where the plague is now widely distributed.

BILE AS A CORRECTIVE OF THYREOID OVERACTIVITY.

The use of bile as a medicine, in the familiar form of inspissated ox gall, is no novelty, but recently Dr. C. M. Allan, of Longton, England (*Lancet*, August 26th), has given what he considers good reasons for looking upon the secretion of the liver as having other functions than those of a digestive, a laxative, and an intestinal antiseptic, and as a remedy capable, when administered by the mouth or subcutaneously or applied to the wounded thyreoid gland, of counteracting overactivity on the part of that gland and of correcting the action of its secretion when it gets access to the tissues in abnormal abundance. He goes further than Dr. Adami, of Montreal, whose view that "one of the functions of the liver is to arrest the further passage of these [the colon and other] bacilli into the general circulation, and to destroy them through the agency of the specific cells of the organ," he cites. These suggestions of Dr. Allan's, though modestly and tentatively offered and not purporting to rest on anything like a demonstration, seem to us far more than speculative. His article is a long one, and we can not do more here than to indicate a few of its notable points; it will well repay reading *in extenso.*

Dr. Allan tells how he was led to the idea that the bile was in some degree a corrigent of the internal secretion of the thyreoid, and he then relates the results of his use of the biliary secretion in the case of a middle-aged woman who, having for ten years been the subject of occasional attacks of exophthalmic goître, although her thyreoid gland was not at any time sufficiently enlarged to be noticeable except on examination, suffered with a very pronounced attack occurring as a complication of influenza. There was a striking deficiency of bile in the dejecta, and the opportunity seemed a good one for testing the efficacy of bile as a remedy for exophthalmia and its accompanying symptoms. It was given by the mouth—pig bile in the form of tabloids prepared by Messrs. Burroughs, Wellcome, & Co.—in amounts carried from 1,500 up to 2,250 grains daily, and subcutaneously for a time in doses of the equivalent of from 120 to 360 grains twice a day. The effect was decidedly favorable, and great improvement in the patient's general health followed the further administration of smaller doses for a time twice a week.

In the course of five weeks 48,000 grains of bile were administered, inclusive of 3,640 grains given subcutaneously and more than 1,000 grains injected into the substance of the thyreoid gland itself. Yet there were no symptoms of cholæmia; on the contrary, the feeling of general well-being was distinctly promoted by the use of the remedy. What became of all this bile the author does not profess to explain; it did the work expected of it, and it did no harm. Evidently Dr. Allan's pioneer work in the direction indicated is worthy of being followed up.

HYSTERICAL SIMULATION OF APPENDICULAR DISEASE.

Of the mimicry of the symptoms of organic disease by hysteria there seems to be no end. H. Nothnagel (*Wiener klinische Wochenschrift,* 1899, No. 15; *Deutsche Medizinal-Zeitung,* August 17th) reports the case of a neurasthenic young man who for two years had seemed to have appendicular inflammation. His abdomen was opened, but nothing abnormal was found, although at the outset a pathological resistance to palpation had been thought to exist. The pains continued to occur, without, however, any fever, any vomiting, or the slightest physical sign, but there was such exquisite cutaneous sensitiveness as is never a feature of genuine perityphlitis. The reflexes were exaggerated, and the visual field was restricted.

RASHES AFTER ENEMATA.

The fact that rashes are occasionally consequent on enemata is not altogether unknown, but it is probable that, owing to its want of mention in manuals of dermatology, it is not so widely known as it ought to be. Dr. T. K. Monro (*Glasgow Medical Journal,* September) therefore does good service by calling attention to the subject and recording six cases of his own. It is possible that rashes really due to the administration of an enema are occasionally classed among surgical or puerperal rashes, or drug eruptions, hence it is well that the practitioner should bear in mind the enema as a factor in rash production. Such rashes are divided into three types—scarlatiniform, measly, and small-whealed urticarious—but more than one form may be present. They appear to be more common in women than in men and in adults than in children. They may or may not be associated with burning or itching. The distribution appears to be irregular, the buttocks and then the face being the more common seats, but all parts of the body being liable to invasion. Rise of temperature and acceleration of pulse are uncommon. The production of the rash is variously attributed to fæcal absorption from the injected fluid softening the contents of the bowel, the absorbed material being excreted by the skin; or to the use of hard yellow soap, for such rashes have not been recorded as following enemata of soft soap. The interval elapsing between the enema and the appearance of the rash is said to be commonly about twelve hours, but may vary between two and twenty-four hours.

SURGICAL INSTRUMENTS NOT DUTIABLE.

We are glad to learn, through the *Railway Surgeon* for August 22d, of a most important decision which was recently handed down by Judge Colt, of the United States circuit court, reversing the decision of the board of appraisers, which held that surgical instruments imported to this country were dutiable. The court holds that the instruments are not dutiable, being "scientific instruments" within the meaning of the law. The importance of this decision to the profession at large, no less than to the individual practitioner, can not be overestimated.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

We look to see the meeting in Chicago next week well attended, and the programme adhered to closely. The profession of the entire country, not merely that of the valley of the Mississippi River, is deeply interested in the association's proceedings, and probably many physicians who are not members will be present at the meeting.

BRAIN TROUBLE FROM LIGATION OF THE INTERNAL JUGULAR VEIN.

Ligation of the internal jugular vein of one side is for the most part not followed by serious consequences. Kummer, however (*Revue de chirurgie*, April; *Centralblatt für Chirurgie*, August 12th), relates a case in which death in coma took place in five hours after an operation in which such ligation was resorted to because the vessel was wounded. Venous engorgement was found in the pia and in the chorioid plexus, there were two circumscribed foci of hyperæmia in the frontal lobes, and there were extravasations of blood into the ventricles. He refers also to a case occurring in von Bruns's clinic, but in that instance there was hyperplasia of the opposite jugular and death was slower in occurring.

PHIMOSIS AND ORGANIC STRICTURE OF THE URETHRA.

Guyon's dictum that inflammatory strictures of the urethra are always of gonorrhœal origin meets with an obvious exception in the case of traumatic strictures, but F. Comte, of Lyons (*Archives provinciales de chirurgie*, 1899, Nos. 3 and 4), takes the ground that this is not the only exception. He thinks it is not very uncommon for a deep organic stricture to form in consequence of the irritation of urine retained habitually between the prepuce and the glans or behind a stenotic meatus urinarius externus. P. Stolper, of Breslau, whose abstract of Comte's article appears in the *Centralblatt für Chirurgie* for August 26th, remarks that narrowing of the meatus is not rarely the result of a defective operation for phimosis. In cases of simple incision of the prepuce, he says, if it is not thoroughly separated from the glans, a perversion of the shape of the latter is apt to occur, with cicatricial stenosis of the urethra, from contraction of the incised prepuce.

THE POISONOUS DOGWOOD OF VICTORIA.

Occasionally we hear of new plants that, like the various species of rhus, are capable of producing an irritating effect upon the skin. One of these, the *Cassine* (or *Cassinia*) *aculeata*, known in Victoria as dogwood, is reported by Noyes (*Intercolonial Medical Journal*, July 20th) as having caused dermatitis in a number of cases that he has observed. He gives brief notes of seven instances of its poisonous action.

CHRISTIAN SCIENCE FROM A PHYSICIAN'S POINT OF VIEW.

In the October number of *Appletons' Popular Science Monthly* is a remarkably clear and logical *exposé* of this gigantic imposture by Dr. John B. Huber. It is not only of argumentative value, but it is eminently readable. The author's closing sentences are well worth quoting with commendation: "The observer," he says, "will find in Christian Science much charlatanry (by which many honest fanatics are deceived), much to surprise reason and common sense, to offend good taste and the proprieties, to outrage justice and the law, and to mortify the pious. And in the last degree reprehensible will appear this cult's ghastly masquerade in the garb of Him that prayed in the Garden of Gethsemane, 'the pale, staggering Jew, with the crown of thorns upon his bleeding head,' the tenderest, the divinest, the most mankind-loving personality the world has ever known."

ITEMS.

An Honor to a New York Physician.—We learn that the King of Greece has conferred on Dr. Achilles Rose the silver cross of the Knights of the Royal Order of the Saviour.

Changes of Address.—Dr. Samuel M. Brickner, to No. 136 West Eighty-fifth Street, New York; Dr. Carl E. Elfstrom, to No. 437 Pacific Street, Brooklyn.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending September 23, 1899:

Yellow Fever—United States.

Key West, Fla.	Sept. 14–19	164 cases,	7 deaths.
New Orleans, La.	Sept. 2–19	18 "	2 "

Small-pox—United States.

Fall River, Mass.	Sept. 2–9	1 case.
Battle Creek, Mich.	Sept. 8–16	Present.
Maple Grove, Mich.	Sept. 8–16	Present.
Cincinnati, Ohio.	Sept. 2–9	5 cases.
Allegheny, Pa.	Aug. 19–Sept. 2	2 "

Yellow Fever—Foreign.

Babia, Brazil	Aug. 20–Sept. 3	10 cases,	8 deaths.
Barranquilla, Colombia	Aug. 12–26	1 case,	1 death.
Colon, Colombia	Aug. 26–Sept. 3	1 "	1 "
Panama, Colombia	Sept. 5–12	8 cases,	3 deaths.
Port Limon, Colombia	Aug. 29	1 case.	
Havana, Cuba	Sept. 3–10	24 cases,	3 "
Nuevitas, Cuba	Sept. 2	1 case.	
Santiago, Cuba	Aug. 29–Sept. 5	3 cases.	
Tampico, Mexico	Sept. 8–16	2 "	1 death
Tuxpan, Mexico	Aug. 29–Sept. 4		2 deaths.
Vera Cruz, Mexico	Sept. 1–14		21 "

Small-pox—Foreign.

Antwerp, Belgium	Aug. 19–26	3 cases.	
Rio de Janeiro, Brazil	July 21–28	54 "	34 deaths.
Manzanillo, Cuba	Sept. 5	Several cases.	
Cairo, Egypt	Aug. 11–19	4 cases.	
Athens, Greece	Aug. 22–Sept 2	14 "	3 deaths.
Bombay, India	Aug. 8–15	11 "	
Chihuahua, Mexico	Aug. 28–Sept. 9		11 "
Mexico, Mexico	Aug. 13–27	9 "	6 "
Moscow, Russia	Aug. 12–26	4 "	1 death.
Odessa, Russia	Aug. 19–26	1 case.	1 "
St. Petersburg, Russia	Aug. 19–Sept. 2	11 cases,	4 deaths.
Warsaw, Russia	Aug. 12–26		3 "
Straits Settlements, Singapore	July 29–Aug. 5		1 death.

Cholera.

Bombay, India	Aug 8–15		1 death.
Calcutta, India	July 30–Aug. 5		27 deaths.

Plague.

Hongkong, China	July 29–Aug. 5	29 cases,	29 deaths
Alexandria, Egypt	Aug. 13–27	5 "	3 "
Bombay, India	Aug. 8–15		71 "
Calcutta, India	July 30–Aug. 5		52 "

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 9 to September 23, 1899:*

Bell, Joseph L., First Lieutenant and Assistant Surgeon, United States Volunteers, is assigned to the Thirty-fourth Infantry, United States Volunteers.

Bourns, F. S., Major and Chief Surgeon, United States Volunteers, is ordered to proceed to San Francisco and thence to Washington.

Bradley, Alfred E., Major and Surgeon, United States Volunteers (Captain and Assistant Surgeon, United States Army), is honorably discharged from the volunteer army.

Bradley, Henry H., Acting Assistant Surgeon, United States Army, is assigned to temporary duty as transport surgeon on the *Sherman*, relieving Ronayne, J. A., Acting Assistant Surgeon, who will report for temporary duty at the United States General Hospital, Presidio of San Francisco.

Cable, George L., Acting Assistant Surgeon, United States Army, is relieved from duty at the medical supply depot at Matanzas, Cuba.

Craig, Charles F., Acting Assistant Surgeon, United States Army, will proceed to Fort Hamilton, New York, for temporary duty.

Egan, Peter R., Captain and Assistant Surgeon, is detailed as a member of the board of officers convened by Par. 2, S. O. 164, c. s., D. P. R., *vice* Wells, George M., Captain and Assistant Surgeon, United States Army, relieved.

Ford, Clyde S., First Lieutenant and Assistant Surgeon, is assigned to the Twelfth United States Infantry, San Fernando, Luzon.

Ford, Joseph H., First Lieutenant and Assistant Surgeon, is assigned to the Thirteenth United States Infantry, near Pasay, Luzon, relieving Roberts, G. W., Acting Assistant Surgeon, who will report to the First Reserve Hospital, Manila, for duty.

Gill, Charles R., Acting Assistant Surgeon, United States Army, will proceed to Fort Hamilton, New York, for medical treatment at that place.

Greenleaf, Charles R., Colonel and Assistant Surgeon-General, United States Army, will proceed to Honolulu, Hawaiian Islands, for the purpose of inspecting the medical department and the sanitary condition of the post and camps in that vicinity.

Hallwood, J. B., Acting Assistant Surgeon, United States Army, will proceed to Matanzas, Cuba, for duty with the depot battalion, Tenth Infantry, to accompany it to Fort Crook, Nebraska.

Kellogg, P. S., Acting Assistant Surgeon, United States Army, is assigned to duty on the transport *Centennial* during the voyage of that vessel to Manila.

Kieffer, Charles F., Captain and Assistant Surgeon, United States Army. The leave of absence granted him is extended twenty-three days.

Kirkpatrick, T. J., First Lieutenant and Assistant Surgeon, is granted sick leave for one month, with permission to apply for an extension of two months.

Porter, Elias H., Acting Assistant Surgeon, United States Army, will proceed to Fort Hancock, New Jersey, to relieve Gilman, Louis L., Acting Assistant Surgeon, United States Army, who will proceed to New York for duty.

Ross, John, Surgeon, United States Navy, retired, is assigned to duty in connection with municipal hospitals and charities as an assistant to the chief surgeon, and will be prepared to relieve Dr. C. L. Furbush.

Simmonton, A. H., Acting Assistant Surgeon, United States Army, will proceed to Cienfuegos Barracks, Cuba, for duty with the depot battalion, Second Infantry, to accompany it to Fort Thomas, Kentucky.

Stuart, S. MacCandless, Acting Assistant Surgeon, is assigned to duty attending all enlisted sick men in quarters in Manila, whose organizations are in the field, relieving Lowell, Charles H., Acting Assistant Surgeon, United States Army.

Taylor, Hugh L., Acting Assistant Surgeon, United States Army, will proceed to Vancouver Barracks, Washington, for duty with the battalion of the Thirty-ninth Infantry.

Ware, Isaac P., Captain and Assistant Surgeon, United States Army, will proceed to Benicia Barracks, California, for station at that post, awaiting result of retiring board.

White, George Reeves, Acting Assistant Surgeon, United States Army, will report for temporary duty at the United States General Hospital, the Presidio, California, awaiting transportation to the Philippine Islands.

Wilson, James S., First Lieutenant and Assistant Surgeon, will, upon his arrival at Manila, report to Hall, William R., Major and Surgeon, United States Army, for examination as to his fitness for promotion.

Wilson, William H., Captain and Assistant Surgeon, United States Army, will proceed to Angel Island, California.

Zauner, Robert H., Acting Assistant Surgeon, is assigned to the Twentieth United States Infantry, Fort Santiago, Manila.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending September 23, 1899:*

Baldwin, L. B., Surgeon. Placed on the retired list.

Barber, George H., Passed Assistant Surgeon. Detached from the *Monongahela* and ordered to duty at the Naval Academy.

Blakeman, R. S., Assistant Surgeon. Ordered to the Naval Hospital, Newport, Rhode Island, on completion of preliminary examination for promotion.

Lovering, P. A., Surgeon. Detached from the recruiting rendezvous, Buffalo, and ordered to proceed home.

Lumsden, G. P., Surgeon. Detached from the *Richmond* and ordered to the recruiting rendezvous, Buffalo.

Marsteller, E. H., Surgeon. Detached from the recruiting rendezvous, Buffalo, and ordered to the *Richmond.*

Rothganger, George, Passed Assistant Surgeon. Ordered to duty at the United States Naval Hospital, New York.

Snyder, J. J., Assistant Surgeon. Detached from the Naval Hospital, Newport, Rhode Island, and ordered home to await further orders.

Stone, M. V., Assistant Surgeon. Detached from the *Brutus* and ordered to the Asiatic Station.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending September 21, 1899:*

Banks, C. E., Surgeon. Granted leave of absence for one day.

Peckham, C. T., Surgeon. To proceed to Eagle Pass and Laredo, Texas, as inspector.

McIntosh, W. P., Surgeon. To proceed immediately to Meridian, Mississippi, and report by wire to Surgeon H. R. Carter at New Orleans for special temporary duty.

Wertenbaker, C. P., Passed Assistant Surgeon. Leave of absence extended sixteen days on account of sickness.

Fricks, L. D., Assistant Surgeon. Directed to assume temporary charge of the service at Key West, Florida, relieving Assistant Surgeon McAdam.

McAdam, W. R., Assistant Surgeon. Relieved temporarily from the hospital at Key West and detailed for special duty in connection with the yellow-fever epidemic at Key West.

Hallett, E. B., Acting Assistant Surgeon. Granted leave of absence for one day.

Davis, H. E., Hospital Steward. Upon the arrival of Steward Warhanik, to rejoin station at Boston.

Warhanik, C. T., Hospital Steward. Relieved from duty at Chicago and directed to proceed immediately to Baltimore for temporary duty and assignment to quarters.

Appointment.

W. J. W. Woolgar, of Ohio, to be acting assistant surgeon for duty at Cleveland.

Society Meetings for the Coming Week:

Monday, *October 2d:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, New York, Academy of Medicine; Utica, New York, Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; Monmouth, New Jersey, County Medical Society (Freehold); South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

Tuesday, *October 3d:* Mississippi Valley Medical Association (first day—Chicago); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, New York, Academy of Medicine; Ogdensburgh, New York, Medical Association; Syracuse, New York, Academy of Medicine; Medical Societies of the Counties of Broome (annual), Columbia (semiannual—Chatham), Orange (semiannual—Goshen), and Washington (semiannual), New York; Hudson (Jersey City) and Union (quarterly), New Jersey, County Medical Societies; Androscoggin, Maine, County Medical Association (Lewiston); Chittenden, Vermont, County Medical Society; Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

Wednesday, *October 4th:* Mississippi Valley Medical Association (second day); New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, New York (New Brighton); Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

Thursday, *October 5th:* Mississippi Valley Medical Association (third day); New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, New York; Washington, Vermont, County Medical Society; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni, of St. Louis; Atlanta Society of Medicine.

Friday, *October 6th:* Mississippi Valley Medical Association (fourth day); Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

Saturday, *October 7th:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

Daniels—Cushman.—In Pensacola, Florida, on Tuesday, September 19th, Mr. Henry S. Daniels and Miss Kate Gordon Cushman, daughter of Dr. H. C. Cushman.

White — Clapp.—In Wellesley Hills, Massachusetts, Dr. George Rantoul White and Miss Irma May Clapp.

Died.

Cusack.—In Orange, New Jersey, on Wednesday, September 20th, Dr. T. George Cusack.

ZIMMER.—In Rochester, New York, on Monday, September 18th, Minnie Wolff Zimmer, wife of Dr. John Zimmer.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

(*Continued from page 460.*)

XXXVIII.

CRIMINAL LIABILITY.

Criminal Liability arises when Conduct becomes a Public Menace.—The liability of the physician resulting from the improper or wrongful exercise of the functions of his profession which has heretofore been the subject of examination is that of a civil nature, which was satisfied with a payment of an adequate compensation to the particular patient who was thereby injured. Usually in such cases of nonfeasance or malfeasance, the injury produced and the resulting right of prosecution is a matter affecting only the immediate parties to the transaction—viz., the physician and the patient—and is one in which third parties generally, or, in other words, the public or State, have no concern whatever. It is evident, however, that there may be cases in which the act complained of is so grossly unprofessional as not only to cause an injury to the patient for which he is entitled to compensatory damages but to amount as well to a serious menace to the peace and safety of the public. Such an act will, in addition to the civil liability heretofore considered, give rise to another and more important liability in favor of the public or the State, known as a criminal liability.

Common Law and Statutes Regulate the Subject.—Our criminal law, like our law relative to civil matters, came from England as a part of the common law. To this many alterations and additions have been made in the several States by statutes, and in some few jurisdictions the common law relative to criminal matters is so abrogated by statutes that only those acts are considered as criminal which their legislatures have expressly declared so to be.*

The criminal law in its relation to the practice of medicine is in its nature very largely statutory, and differs in detail in the several jurisdictions; yet as a whole it is sufficiently uniform to render practicable a general treatment of the subject applicable to the several States.

Criminal Intent Presumed.—The civil liability of the physician, it has been observed, is based upon his failure to possess ordinary knowledge, or to exercise the usual or proper degree of care and diligence in applying the same. Such an act ordinarily lacks the essential element of a crime—viz., malice or a criminal intent—and can, therefore, be considered only in the light of a civil injury affecting the individual patient. That malice or criminal intent need not always be shown to exist, but may be implied from the character of the acts complained of, is, however, a well-recognized principle of the law, it being held that one is presumed to contemplate the natural consequences of his acts, and, if these consequences are so disastrous or so fatal as to justify a presumption of malicious intent, the act will be deemed criminal even though it is in fact the result only of negligent or reckless conduct.

Gross Ignorance and Reckless Negligence; English Doctrine.—Whether or not the ignorance of a physician may be so gross, or his conduct so grossly and recklessly negligent, as to render him guilty of homicide where the patient dies from his maltreatment is a question that has been several times before the English and American courts. The doctrine established by the English courts seems to be that if the ignorance or the neglect is gross, then the criminal intent will be implied. Chief-Justice Parker says: "I call it acting wickedly when a man is grossly ignorant, and yet affects to cure people, or when he is grossly inattentive to their safety." * Some light is thrown upon the question of what degree of ignorance or what amount of negligence an English court considers gross by the words of Justice Miller, who says: "If a man knew that he was using medicine beyond his knowledge, and was meddling with things above his reach, that was culpable rashness. Negligence might consist in using medicines in the use of which care was required, and of the properties of which the person using them was ignorant. A person who so took a leap in the dark in the administration of medicine was guilty of gross negligence." †

Early American Policy.—The policy of the American courts, as manifested in the earlier cases, was that of much greater leniency, their policy being to hold the defendant guilty only when an evil or mischievous intent could be shown. In more recent cases, however, our courts have followed the English precedents, and, it is thought probable, will continue to do so, this doctrine being more in accord with the ever advancing spirit of medical and surgical science and better calculated to relieve the medical fraternity of those quacks and charlatans whose presence is a reproach upon the profession.

The earliest American case of any importance, and one which is doubly interesting because it not only illustrates the policy applied by our courts for over half a century, but also throws light upon the source of a system or school of medicine which enjoyed more or less patronage in this country for a number of years, is that of Commonwealth *vs.* Thompson.‡ In this case, which was tried in 1809, Dr. Samuel Thompson, founder of the Thompsonian system of medicine, sometimes referred to as the botanical system or steam system, was tried for murder. The report of the case, it is thought, presents matter of sufficient interest to the medical profession to justify a liberal extract therefrom.

"On the trial it appeared in evidence that the prisoner, some time in the preceding December, came into Beverly, where the deceased then lived, announced himself as a physician, and professed ability to cure all fevers, whether black, gray, green, or yellow; declaring that the country was much imposed upon by physicians, who were all wrong, if he was right. He possessed several drugs, which he used as medicines, and to which he gave singular names. One he called *coffee;* another, *well-my-gristle;* and a third, *ramcats.* He had several patients in Beverly and in Salem previous to Monday, the 2d of January, when the deceased, having been for several days confined to his house by a cold, requested that the prisoner might be sent for as a physician.

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* This is the condition in the States of Iowa, Ohio, and Kansas.

* Rex *vs.* Long, 4 Car. and P., 406.

† Reg. *vs.* Markus, 4 F. and F., 356.

‡ Commonwealth *vs.* Thompson, 6 Mass., 134.

"He accordingly came and ordered a large fire to be kindled to heat the room. He then placed the feet of the deceased, with his shoes off, on a stove of hot coals and wrapped him in a thick blanket, covering his head. In this situation he gave him a powder in water which immediately puked him. Three minutes after he repeated the dose, which in about two minutes operated violently. He again repeated the dose, which in a short time operated with more violence. These doses were all given within the space of half an hour, the patient in the mean time drinking copiously of a warm decoction, called by the prisoner his *coffee*. The deceased, after puking, in which he brought up phlegm but no food, was ordered to a warm bed, where he lay in a profuse sweat all night. Tuesday morning the deceased left his bed and appeared to be comfortable, complaining only of debility; and in the afternoon he was visited by the prisoner, who administered two more of his emetic powders in succession, which puked the deceased, who, during the operation, drank of the prisoner's *coffee* and complained of much distress. On Wednesday morning the prisoner came and, after causing the face and hands of the deceased to be washed with rum, ordered him to walk in the air, which he did for about fifteen minutes. In the afternoon the prisoner gave him two more of his emetic powders, with draughts of his *coffee*. On Thursday the deceased appeared to be comfortable, but complained of great debility. In the afternoon the prisoner caused him to be again sweated, by placing him, with another patient, over an iron pan, with vinegar heated by hot stones put into the vinegar, covering them at the same time with blankets. On Friday and Saturday the prisoner did not visit the deceased, who appeared to be comfortable, although complaining of increased debility. On Sunday morning, the debility increasing, the prisoner was sent for, and came in the afternoon, when he administered another of his emetic powders with his *coffee*, which puked the deceased, causing him much distress. On Monday he appeared comfortable, but with increasing weakness, until the evening, when the prisoner visited him, and administered another of his emetic powders, and in about twenty minutes repeated the dose. This last dose did not operate. The prisoner then administered pearlash mixed with water, and afterward repeated his emetic potions. The deceased appeared to be in great distress and said he was dying. The prisoner then asked him how far the medicine had got down. The deceased, laying his hand on his breast, answered, Here; on which the prisoner observed that the medicine would soon get down and unscrew his navel; meaning, as was supposed by the hearers, that it would operate as a cathartic. Between nine and ten o'clock in the evening the deceased lost his reason and was seized with convulsion fits, two men being required to hold him in bed. After he was thus seized with convulsions the prisoner got down his throat one or two doses more of his emetic powders, and remarked to the father of the deceased that his son had got the *hyps* like the devil, but that his medicine would fetch him down; meaning, as the witness understood, would compose him. The next morning the regular physicians of the town were sent for, but the patient was so completely exhausted that no relief could be given. The convulsions and the loss of reason continued, with some intervals, until Tuesday evening, when the deceased expired."

The evidence showed that the "*coffee*" was a decoction of marsh rosemary mixed with the bark of the bayberry bush, which was not supposed to have injured deceased. The emetic powder, upon which the prisoner said he chiefly relied in his practice, and which was so frequently administered to deceased, was the pulverized plant commonly known as Indian tobacco, or the *Lobelia inflata* of Linnæus.

The prisoner in this case had been indicted for murder, but under the practice the jury could have found him guilty of manslaughter had they determined that the offense amounted to that crime only.

The court instructed the jury that to constitute the crime of murder the killing must have been with malice, either express or implied; that there was no express malice, and that they could not infer malice without being satisfied that the prisoner was willfully regardless of his duty and determined upon mischief.

Upon the question of the prisoner's guilt of the crime of manslaughter the court laid down the doctrine that the killing must have been a consequence of some unlawful act to constitute such a crime. This doctrine, it will be hereafter seen, has been distinctly repudiated by the supreme court of the same State in a recent decision. The court in this case continued: "Now, there is no law which prohibits any man from prescribing for a sick person with his consent, if he honestly intends to cure him by his prescription. And it is not felony if, through his ignorance of the quality of the medicine prescribed, or of the nature of the disease, or of both, the patient, contrary to his expectation, should die. The death of a man killed by voluntarily following a medical prescription can not be adjudged felony in the party prescribing, unless he, however ignorant of medical science in general, had so much knowledge or probable information of the fatal tendency of the prescription that it may be reasonably presumed by the jury to be the effect of obstinate, willful rashness, at the least, and not of an honest intention and expectation to cure." The court, after observing that if the evidence showed the administration of like remedies to have previously caused similar injurious or fatal effects, then the jury might have found the prisoner guilty of manslaughter, concluded its opinion as follows: "It is to be exceedingly lamented that the people are so easily persuaded to put confidence in these itinerant quacks, and to trust their lives to strangers without knowledge or experience. If this astonishing infatuation should continue, and men are found to yield to the impudent pretensions of ignorant empyricism, there seems to be no adequate remedy by a criminal prosecution, without the interference of the legislature, if the quack, however weak and presumptuous, should prescribe with honest intentions and expectations of relieving his patient."

Following this decision is one from the supreme court of Missouri, decided in 1844.* Here the prisoner was also a botanic physician. The patient, who was to be treated for "sciatica," was in the family way and lacked about six weeks of having completed the period of gestation. The patient's husband informed the accused of the patient's condition and told him that he had been cautioned against giving her vapor baths and emetics while in that condition. The accused declared his ability to treat the patient with perfect safety, and promptly began steaming and giving her lobelia. A few repetitions of this treatment brought on a miscarriage, from the effects of which the patient died.

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* Rice *vs.* State, 8 Mo., 561.

The court applied the doctrine enunciated in the case of Commonwealth *vs.* Thompson, and said that as no improper motive or knowledge of the fatal tendency of the treatment applied was shown the accused could not be held guilty.

The case of Honnard *vs.* People* presents a question rather of fact than of law. The patient, who was five months advanced in pregnancy, was suffering from bilious fever; the accused was attending her and, as the evidence shows, was extremely careful about giving her strong medicine, and was in no way responsible for her miscarriage. After the labor pains commenced the accused was sent for. The patient's labor being ineffectual, the doctor undertook to remove the fœtus by force. Of the first and, apparently, only presentation he succeeded in bringing away all but the head. Having no forceps, he undertook to improvise a substitute by the use of two spoons, but whether he used them to any extent is doubtful. Being himself ill, he gave up his endeavors to bring away the head and, going away, sent another doctor. The patient was then given ergot and, after a little time, the head and another fœtus besides came away. The patient from that time had no physician for about a week—why, the evidence does not show—when puerperal fever set in, from which she died in about two days. The court, in considering the criminal liability of the accused, said: "He may not have acted with either the best judgment or even ordinary skill. But no unprejudiced person can read the evidence without being convinced that he acted with good motives, and the evidence wholly fails to show that the puerperal fever, of which the patient died, was caused by anything done or omitted to be done by the accused.

"If physicians and surgeons can be convicted of manslaughter, and sent to the penitentiary, upon such evidence as this record contains, there would be witnessed a frightful devastation of their ranks. . . . There is wanting in this case every element of the crime of manslaughter, but that of the mere death of a human being."

In the case of State *vs.* Schultz,† in which the accused professed to be a Baunscheidtist, the evidence showed that the accused treated the deceased by using an instrument consisting of fine teeth or needles all over her body and applying oil; he also gave eight drops of the oil internally as a cathartic. In regard to the oil, the accused testified: "Do not know what the oleum Baunscheidtii is made of; it is a secret of the inventor."

Upon the trial the court instructed the jury that "a party, whether he be a physician or specialist, has no right to hold himself out to the public as competent to treat diseases, and induce the public to employ him, unless he knows what the medicine is he uses, and its reasonable effect upon the human system; and to do so, and administer internally poisonous medicines in sufficient quantities to ordinarily produce death, and death is produced thereby, he would be guilty of murder. And if the defendant in this case, through gross ignorance of the medicine used, or its reasonable effect upon the deceased as she was at the time, caused her death by an overdose of poisonous medicine, he would be guilty as charged."

The supreme court, in reviewing the case, held that this instruction was not the law, and that the physician could not be held guilty unless in prescribing and treating the patient he had so much knowledge of the fatal tendency of the prescription that it might be reasonably presumed that he administered the medicine from an obstinate, willful rashness, and not with an honest intention and expectation of effecting a cure. Thus following, it will be observed, the cases of Commonwealth *vs.* Thompson and Rice *vs.* State.

Present American Policy.—Upon the other hand, a disposition to follow the English doctrine and hold the profession to a more strict criminal accountability was first manifested by the supreme court of Arkansas in 1882.*

Here the question arose upon a point of law as to the sufficiency of the facts alleged in the indictment. These facts alleged in brief were that the accused unnecessarily administered to the patient, who was undergoing pains of childbirth, a large quantity of morphine, by reason of which the labor pains were retarded; that he then administered to her large and excessive quantities of fluid extract of ergot, by reason of which she had convulsions, and that he then bled the patient in the arm. That he then improperly and carelessly attempted to deliver the child with forceps. That he then improperly and carelessly administered excessive quantities of chloroform, and then, improperly, etc., punctured the head of the child with a pocket knife, unnecessarily killing it; that he inserted his finger in the mouth of the child and forced its head out of the mouth of the vagina, then tied a rope around its neck, and with force and violence, and without due caution, delivered the child; and that without delivering the afterbirth he abandoned the patient, from the effects of which she died in about six days.

The court, after reviewing all the principal authorities, English and American, said: "The court is of the opinion that the indictment in this case is sufficient. Whether the appellees are criminally responsible for the death of Mrs. S—— must depend upon the evidence. A felonious want of due care and circumspection in her treatment must be proved as alleged. For a mere mistake of judgment in the selection and application of the remedies and appliances named in the indictment, they would not be criminally liable. Were they grossly ignorant of the art which they assumed to practise? Did they manifest gross ignorance in the selection or application of the remedies? Were the remedies unusual, inapplicable, or rashly applied? Were appellees grossly negligent or inattentive? These are all questions of evidence."

The next case in point of time seems to be that of Commonwealth *vs.* Pierce,† passed upon by the same court that decided the case of Commonwealth *vs.* Thompson, but with quite a different result. Here the physician caused the patient to be wrapped in flannels saturated with kerosene for three days, from which her flesh became so burned and blistered that she died.

The counsel for the accused urged that if he made the prescription with an honest purpose and intent to cure the deceased, he was not guilty of the offense charged, however gross his ignorance of the quality and tendency of the remedy prescribed, or of the nature of the disease, and that to prove his guilt it must be shown that he had so much knowledge or probable information of the fatal tendency of the prescription that the death may be reasonably presumed to be the effect of obstinate, willful rashness, and not of an honest intent and expectation to cure. This, it will be remembered, is the doctrine enunciated by the supreme courts of Massachusetts and Missouri in the cases of Commonwealth *vs.* Thompson and Rice *vs.* State. The supreme court of Massachusetts, however, in the present case, denied the correctness of this doctrine and declared that recklessness, in the moral sense of indifference as to the result of one's actions, could not be applied as a test of criminal responsibility. That in criminal matters, as in civil, there must be an external standard of what would amount to moral recklessness in a man of reasonable prudence. That if the prescriptions used were dangerous, according to common experience, one who made use of them could not escape responsibility upon the ground that he had less than the common experience. The court said: "Common experience is necessary to the man of ordinary prudence, and a man who assumes to act as the defendant did must have it at his peril. When the jury are asked whether a stick of a certain size is a deadly weapon, they are not asked further whether the defendant knew it was so. It is enough that he used and saw it such as it was."

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* Honnard *vs.* People, 77 Ill., 481.

† State *vs.* Schultz, 55 Ia., 628.

* State *vs.* Hardister and Brown, 38 Ark., 605.

† Commonwealth *vs.* Pierce, 138 Mass., 165.

The principles laid down in this case have been followed in the late case of State *vs.* Gill,* and it is believed will be recognized by other courts as the correct law.

(*To be continued.*)

Pith of Current Literature.

Iodide of Potassium as a Diagnostic Agent in Pulmonary Tuberculosis.—Dr. Edward F. Wells (*Journal of the American Medical Association*, February 4th) says that when iodide of potassium is administered it is eliminated, in part, by the bronchial mucous membrane, and it has long been known that, as the result of such elimination, the bronchial mucus is increased, mainly by the addition of water; cough may occur or be increased, and râles may develop or be accentuated. These effects are especially prone to occur when the doses of the iodide given are small or moderate. Stricker suggested that the drug might be useful for diagnostic purposes in pulmonary tuberculosis, and Vetlesen put the suggestion to a practical test. He used the iodide in three-grain-and-a-half doses three times a day for two or three days in twenty-seven cases, obtaining a positive reaction in eight, and negative results in nineteen cases. In the cases in which the reaction was positive, expectoration and râles were increased, the tubercular foci being readily located by the exaggerated râles heard in the vicinity.

As soon as the author's attention was called to Vetlesen's paper he began a series of observations for the purpose of determining, if possible, whether we had in the iodide of potassium an agent of diagnostic value in pulmonary tuberculosis, and, if so, defining so far as practicable its limits of clinical usefulness.

As a result of a large number of investigations, he found that, generally speaking, it might be affirmed that in cases in which tuberculosis was proved to exist, but with inability to locate the lesion, the locality and extent of the affected area might be made evident by the development of râles; that in cases with râles and an apparent ability to demonstrate the extent of local involvement, the observer would be gratified with the clearness of the auscultatory evidence, and astounded at the revealed extent and distribution of the deposit, and that in suspected tuberculosis râles and bacillary expectoration might be obtained earlier than was possible by any other means. The râles were induced or intensified in the consolidated area because the fluid in the bronchi accumulated there, and with coughing or deep breathing bubbling was produced. In the author's experience a reaction had been obtained in about two thirds of the cases in this class. The reaction varied with the individual; in some cases the râles present were simply intensified; in others distinctive râles were developed in localities where they were before absent; in some of these, and in others, fine bubbling sounds were diffused all over the chest, but with a distinct accentuation and definiteness of the râles in the consolidated areas; in yet others no changes were produced.

After reporting five illustrative cases the author concluded as follows: "I believe the iodide-of-potassium test, as described, to be free from danger and serious objections; that it lends itself readily to the exigencies of routine practice; and that in the early diagnosis of pulmonary tuberculosis and in defining the location and extent of the lesion, it is a useful addition to our diagnostic resources."

Several speakers, commenting on the paper, suggested that, owing to the fact of the iodide admittedly inducing an increase in the catarrhal condition, its use at least demanded the greatest caution.

An Early Symptom of Actinomycosis. — Besnier (*Lyon médical; Revue médicale*, August 30th) reminded the Society of Dermatology of the aphorism of Poncet: Every patient who without any ascertainable reason is unable to open the mouth is attacked by actinomycosis. The remark had reference to a patient who had great difficulty in opening the mouth, yet in whom the most minute examination revealed no cause. Five or six months later an abscess formed; pus containing the characteristic yellow grains appeared.

Loss of Memory in Alcoholic Insanity.—Dr. Savage (*Clinical Journal*, August 30th), in a clinical lecture on Alcoholic Insanity delivered at Bethlem Royal Asylum, London, said that with the loss of memory, which is not uncommon in alcoholic paranoiacs, there is loss of desire for alcohol in nearly every case. Regarding the patient in the North, to whom he had already referred, when Dr. Savage visited him he went after dinner into the billiard room and played billiards. Whisky and brandy and soda water were on a side table. The patient would go up and take a bottle of soda water, and would not touch the stronger drink; he had no desire for it. If he had begun to recover his memory, however, he would have begun to regain his desire for drink. Dr. Savage was asked some time ago to see a lady, the wife of a leading solicitor, who had drunk herself into temporary weakmindedness and complete loss of recent memory. The husband said to him, "Do you think my wife will ever recover?" He replied, "She will probably recover her memory, but I advise you not to pray for it, because if she gets back her memory she will also get back her desire to drink." The husband said, "Oh, no; when she was comparatively well I dared leave a decanter of spirits about and she would never touch it." Dr. Savage replied: "If she gets well she will take to drink again." The next he heard of the case was that the lady had recovered her memory and also her desire to drink. So loss of memory in alcoholics may be a blessing in disguise.

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* State *vs.* Gill, 8 Wash., 12; 35 Pac. Rep., 417.

An Undescribed Pupil Phenomenon.—A. Westphal (*Neurologisches Centralblatt,* February 15th; *British Medical Journal,* September 9th) refers to the contraction of the pupil when the orbicularis palpebrarum muscle is energetically contracted. It is necessary to ascertain beforehand that the pupil is not in a contracted state (meiosis) before testing. On asking the patient to close the eyelids firmly, and at the same time forcibly keeping the eyelids from closing, the pupil is seen to contract in the normal eye. In the case of eyes, however, whose reaction to light is feeble or absent (as in the case of the Argyll Robertson pupil), the contraction of the pupil referred to as associated with the energetic contraction of the eyelids is in abeyance. This phenomenon—namely, the failure of contraction in association with that of the orbicularis—is the new phenomenon of Westphal. It has been found by him in tabes, in cerebral syphilis, and in paralytics, but could not be obtained in healthy subjects.

Operative Measures for Gallstones.—Dr. Ransohoff (*Journal of the American Medical Association,* September 16th), in a paper on Gallstones, says that while his experience in the surgery of the biliary ways is far from large, he feels warranted in submitting the following propositions for consideration: 1. The gallstones found in a gall bladder are generally formed together—that is, about the same time. Their removal will not be followed by recurrence unless a reinfection of the biliary ways occurs. 2. Cholecystotomy with drainage should be regarded as the normal operation. 3. Save in exceptional cases, the operation should be done at one time. 4. Ideal cholecystotomy or cholecystendesis is not to be recommended. 5. Cholecystectomy is rarely indicated in acute processes. It is more dangerous than cholecystotomy. Since most stones are formed in the gall bladder, cholecystectomy is the more radical operation. It should be reserved for chronic cases in which a restitution of the gall bladder to the normal can not be expected. 6. Cysticotomy is a safe supplement to incision of the gall bladder for stones of the cystic duct. 7. Choledochotomy with suture and drainage should be considered the routine procedure in common-duct stones. Incision of the duct through the duodenum or from an incision in the loin (Tuffier) will rarely be needed. 8. Cholecystenterostomy has a limited but distinct field of application—*i. e.,* obstruction jaundice from malignant disease or impermeable cicatricial common-duct stenosis.

Ætiology of Night Terrors.—Rey (*Archiv für Kinderheilkunde,* Bd. xxv, Heft 3 u. iv; *American Journal of the Medical Sciences,* September) has found in all of thirty-two cases of night terrors that adenoid vegetations were present. After removal the terrors subsided. He therefore believes that adenoids are the most frequent cause of this disturbance, acting by the production of a carbonic-acid poisoning produced by interference with respiration.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-first Annual Congress, held in Chicago, Monday, Tuesday, and Wednesday, May 22, 23, and 24, 1899.

The President, Dr. William E. Casselberry, of Chicago, in the Chair.

(*Continued from page 392.*)

Exhibition of a Case of Stammering, with Demonstration of the Methods Employed in Treatment.—By Dr. G. Hudson Makuen. (See page 444.)

Removal of a Foreign Body from the Bronchial Tube through the Tracheal Opening, with a Report of a Case.—Dr. A. Coolidge, Jr., presented a paper on this subject. (See page 475.)

Dr. T. A. de Blois, of Boston: I was very much interested in Dr. Coolidge's paper, in which he intimated that this first operation for the removal of a foreign body in the trachea was successful. I desire to relate an accident which occurred a good many years ago at the City Hospital in Boston in which the foreign body was not removed. It was a case of a child in whom the tracheotomy tube was retained. It seemed as if the vocal cords had become very flabby, and whenever the tracheal tube was removed the dyspnœa would increase. It was therefore suggested that an O'Dwyer tube be placed in the larynx. This was done, and the child got on very well, but the tracheal wound was still kept open. It seemed as if the O'Dwyer tube was rather small, for the reason that it did not stay in place well, and the next larger size O'Dwyer tube was inserted in its place. The nurse had left the room, when the child appeared to be easy, but had not been gone three minutes after the second O'Dwyer tube was put in before they were alarmed by the coughing of the child, and on examination the tube had disappeared. I made an examination, first with a probe, the child being only half etherized and tossing about a good deal, so that it was impossible to differentiate the sensation of the probe's touching the tracheotomy tube, or whether it touched the O'Dwyer tube in the trachea, because on percussion dullness was elicited about the bifurcation. An œsophageal forceps was introduced, but it was impossible to bend it at a sufficiently acute angle to go through the tracheotomy tube and to get down to where the object was supposed to have lodged; and we were not at all sure that the O'Dwyer tube was in the trachea. The child grew weaker and weaker until efforts at removal were abandoned. The child was about two years old. It rallied a little; pneumonia came on, and death followed at the end of twenty-four hours. It was a very distressing case to me. I believe if the proper instruments had been obtainable and a careful search had been made for the foreign body in the trachea the life of the child might have been saved. I am very glad indeed to hear of the successful removal of a foreign body through the tracheal opening, as in this case of Dr. Coolidge's.

Dr. Henry L. Swain, of New Haven: I am personally very much obliged to Dr. Coolidge for enlightening me on a matter so important to us, and especially to the individuals who are brought to us for our opinion in this line of accidents. We are called upon to decide, when a foreign body is inhaled into the trachea, whether operative interference is necessary to remove it or not. I think what he suggests is a step decidedly in advance of anything I am cognizant of—namely, that with a tube we can look down and see and remove the foreign body from the primary bronchus. I should be inclined to do a little differently in the case I am about to report if I had known of this method of investigating and operating. A boy, fifteen years of age, while playing with an ordinary putty blower, started to laugh and sucked a dart into his trachea. The accident occurred in a town near to New Haven. The boy was sent by the next train to the city, and I saw him twenty-four hours after the accident. On the evening of the day before the physicians who saw him felt very sure that the body was in the right bronchus. During the night, in a violent fit of coughing, the dart became dislodged, and on the following day, when I saw the case, it had shifted from the right bronchus. There were no auscultatory signs present or anything to determine the presence of the foreign body in that locality. But we located a body on the left side. After going over the case carefully with consultants, we decided that the object was not in the trachea nor in the primary left bronchus, but probably in the middle of the three secondary divisions. Subsequent developments proved the correctness of this interpretation. We had to decide whether an attempt should be made to remove it through a tracheal wound, or whether to allow the foreign body to remain *in situ*. A third alternative was to open the chest from behind, resect two ribs, get down to the posterior surface of bronchi, and remove the foreign body in that way. The surgeon decided that he did not care to do this. So the case was allowed to go on. After five months, during which the young man twice had consolidation of certain parts of the left lung, which cleared up again, he, in a fit of violent coughing one morning on rising, expectorated the dart, a photograph of which I pass around. Since then he has been gradually recovering from a chronic bronchitis which had become established, and I think he will soon be entirely well. If I had another such case I should be tempted to try the method of Dr. Coolidge, for I believe it might thus be possible to remove the body.

Statistics as to foreign bodies show that by far the majority of them become expelled, either immediately or after a longer time, without operative interference. Dr. Roe pointed this out very clearly in the article he wrote for Burnett's *System*.

The case I have cited is merely another of those cases which recover by simply coughing up the foreign body. Probably ulceration had taken place and had dislodged the foreign body from its first situation where it was impacted.

I recall another case which has been told me by some medical friend. A young man had swallowed a shingle nail, which had gone down into the windpipe. He suffered the most excruciating asthmatic attacks for years. One day he was going through a railroad cut utterly oblivious of the fact that trains were approaching in two directions. He stepped out of the way of one train and was quite severely hit by the other, being knocked senseless against the side of the cut. When he recovered consciousness, he discovered that the force of the blow had caused him to eject the nail from which he had for many years suffered, and he is now well.

Dr. C. E. Bean, of St. Paul: Upon hearing the case cited by Dr. Coolidge, I am reminded of the case of a child, three years of age, that I saw two years ago, who had inhaled half of a peanut. I was called in consultation forty-eight hours after the accident and found pneumonia had already developed. The peanut had evidently lodged in the second division of the right bronchus. I performed a tracheotomy, searched for it to the best of my ability, and was unable to find it. I left the tracheal wound open, and treated the resultant pneumonia in the ordinary way. The child had quite a severe attack of pneumonia, which lasted for two weeks, at the end of which time expectoration began rather freely, and one day the piece of peanut suddenly came out. The child made a good recovery. From my experience with two similar cases just before this I had given an unfavorable prognosis to the parents, stating the child would die in probably twenty-four hours after the operation. There has been no recurrence of the pneumonia, and no appearance of any foreign body.

Dr. F. E. Hopkins, of Springfield: If it is in order to report cases in which no operation was done, I will mention that of a child, three years of age, who came under my observation three months after the supposed inhalation of a foreign body, a fragment of a chestnut shell. No one had observed the accident, and the presence of a foreign body was doubted by the medical attendant. The history, however, pointed pretty clearly in this direction; and physical examination located the obstruction in the left bronchus. I advised tracheotomy, to which the parents would not consent, and nothing was done. Four months later—that is, seven months from the date of the accident—the fragment of shell was coughed out.

Dr. John O. Roe, of Rochester: On writing an elaborate article on foreign bodies in the air-passages a short time ago, I started out with the generally accepted belief that a foreign body in the trachea was a very serious thing. But after studying the results in a great many of such cases I came to the conclusion that a foreign body in the trachea was not such a very grave thing after all, and that when it was causing no active or alarming symptoms nor in danger of leading to serious conditions, the best results are generally obtained by letting the foreign body alone, allowing Nature to expel it. This rule holds good in those cases where a body is smooth and round and not of a corrosive nature, for in a short time the foreign body almost always becomes loosened and expelled during the act of coughing. The parts also frequently become very tolerant of such foreign bodies. I found records of cases where foreign bodies were lodged in a bronchus for twenty-five or thirty years, and expelled at the end of that time without any ill effects to the patient whatever.

I recall an interesting case that I saw some time ago, where a child had swallowed a Punch-and-Judy whistle, which became impacted at the lower part of the trachea. It was not small enough to enter a bronchus, and every time the child breathed it blew the whistle. I performed tracheotomy, and with a long curved forceps fished out the whistle.

Dr. M. R. Ward, of Pittsburgh: I wish to emphasize the statement made by Dr. Roe, that the best results in these cases are often obtained by non-operative treatment. I recall a case in point that came under my observation at the Mercy Hospital, Pittsburgh, during the Christmas holidays, a year ago. A child, six years of age, had placed in its mouth a small, hollow glass ornament, globular in shape, such as is commonly used in the decoration of the Christmas tree. By accident it was drawn into the trachea, and in spite of the most violent paroxysms of coughing it could not be dislodged. The foreign body could not be located either by laryngoscopic or physical examination. As there were no urgent indications for an operation, the patient was kept under close observation, when on the third day after admission, much to our surprise and delight, the foreign body was expelled in one of the paroxysms of coughing. I am sure we would have experienced great difficulty in extracting, by operative procedure, such a fragile body from the trachea or bronchi, even had we been able to locate it.

Dr. A. W. de Roaldes, of New Orleans: Dr. Ward has just made a remark that I can not agree with—namely, in calling our attention to cases getting well generally without operative intervention for the removal of the foreign body. I do not think we should advocate this let-alone policy. I perfectly agree with him in the case of certain foreign bodies which may be so situated that we know *a priori* they will be difficult to remove; but in a number of cases opening the trachea immediately after the accident gives excellent results. I must confess that in an experience of eight cases I have never failed but once to remove the foreign body. This child had broncho-pneumonia, and the chances were the foreign body could not have been removed by surgical measures. The patient died. The seven other patients were operated upon immediately and made good recoveries. Sometimes it is astonishing how, in a sudden spell of coughing, objects will be thrown out through the tracheal wound by keeping the lips of the trachea opened with threads passed on each side maintaining it wide open. I do not think we ought to place ourselves on record as advocating non-intervention in these cases. I understand very well, and can agree with Dr. Roe and Dr. Ward, that statistics show that a great many patients left alone have recovered; at the same time, when we remember the anxiety of the family, the excitement all around, when a child is brought to us after having inhaled a foreign body, I think it is more prudent to make an effort to remove the foreign body by surgical measures, if necessary, even if the attempt is followed by failure. I really believe now that with the aid of such means of examination as Dr. Coolidge has presented, with which I am not very familiar, an attempt should be made to extract the foreign body, if possible.

Dr. E. Fletcher Ingals, of Chicago: I rise particularly to emphasize the statement made by Dr. de Roaldes, because it seems to me that it would be a great misfortune if this society should place itself on record as favoring the do-nothing policy in cases of a foreign body in the trachea. It seems to me that the laryngologist who does not attempt to remove the foreign body is not doing his duty by his patient, unless the body is very small and smooth. In the case of a small, smooth button, or something of the kind, there would be a good excuse for delay. But in the majority of cases I think that laryngologists should adopt the general surgeon's precepts and open the trachea as soon as possible.

Dr. John O. Roe, of Rochester: I do not wish to be misunderstood in reference to this matter. I do not believe in letting *all* foreign bodies in the trachea alone. I had reference in my previous remarks to small, smooth foreign bodies not irritating or corrosive and not producing active symptoms. Almost invariably such objects are sooner or later expelled, resulting in no harm to the patient. Of course, in a case like that which Dr. Coolidge has reported, the foreign body should be removed by surgical interference, and I desire to congratulate the doctor on his skill.

Dr. M. R. Ward, of Pittsburgh: Like Dr. Roe, I do not wish to be placed on record as being unqualifiedly opposed to surgical intervention in the removal of all foreign bodies within the trachea. The remarks of neither of us could be interpreted in that light. We simply have counseled conservatism, and I wish to reassert that meddlesome surgery is not unknown to this portion of the anatomy. My own case, and that reported by Dr. Swain, will bear me out in the statement that the best interests of the patient are often subserved by non-intervention. The idea of resecting two or three ribs, and wholesale mutilation of the lung, in the fruitless search of a foreign body that could not be located previous to operation, does not appeal to the judgment of a conservative and conscientious physician.

Dr. G. V. Woollen, of Indianapolis: Dr. Ingals brought out the essential idea in this discussion—namely, what are the indications for operation?—and this appertains to any department of our calling. I had a case just about this time last year of a child who swallowed a grain of corn, the foreign body being lodged in the right bronchus, and, excepting paroxysms of violent coughing with some dyspnœa, there was no disturbance. I was called by a competent surgeon who had all the arrangements made for performing tracheotomy and attempting the removal of the foreign body. I opposed operative intervention, founding my opposition upon three facts: First, there were no immediate symptoms; second, the foreign body would probably be expelled sooner or later; third, we could operate if indications developed demanding it. I therefore declined positively to operate. The child carried the grain of corn six weeks. One argument advanced in favor of operation was that the corn would germinate and swell from moisture and heat and would impact itself more strongly and set up septic trouble. I could not agree to that, although I do not know what the experience of the profession is as to sprouting corn in the larynx. At the end of six weeks the corn was expelled. The germinal portion of the corn had malted, otherwise the grain was as perfect as it ever was. An interesting feature of the case, predicted by me, was that the patient was threatened three times with broncho-pneumonia, but it was easily controlled. I do not believe, however, in the do-nothing policy in all these cases. This point was emphasized by Dr. Ingals. A substance such as Dr. Coolidge removed in his case could not, I think, be expelled by any coughing efforts.

Dr. G. A. Leland, of Boston: I should like to ask Dr. Coolidge if he could see beyond the bifurcation, so that if he had a small foreign body to deal with he could locate it by his instrument.

Dr. G. Hudson Makuen, of Philadelphia: I should also like to ask if the tracheotomy was a recent one, if there was hæmorrhage connected with it, or whether he did it through the old tracheotomy wound.

Dr. John W. Farlow, of Boston: Perhaps I can answer the question of Dr. Leland, as I saw the patient before he came under the observation and care of Dr. Coolidge. I saw the larynx plainly, and with a small mirror could see through the tracheal wound. A tracheotomy had been done many years before, and through the tracheal wound with a mirror I could see down into the left bronchus. Without a tracheal tube, such as Dr. Coolidge advocates, it is hardly possible to see beyond the bifurcation. The patient had no symptoms of a foreign body at the time I saw him.

Dr. Coolidge: In this case the tracheotomy was an old one, and for that reason it was perhaps easier to extract the foreign body through the wound; but I see no reason why a tracheotomy done just previously to the exploration should much increase the difficulty or danger. In most cases it could be done deliberately, the bleeding stopped, and everything done aseptically.

(*To be continued.*)

Book Notices.

The Mechanics of Surgery. Comprising Detailed Descriptions, Illustrations, and Lists of the Instruments, Appliances, and Furniture Necessary in Modern Surgical Art. By Charles Truax. Chicago, 1899. Pp. 1024. [Price, $4.50.]

This book is in some respects unique. Its author is the senior member of a great Chicago firm of instrument makers, but the work is by no means a catalogue of the firm's wares; indeed, it presents many illustrations and descriptions of appliances not produced by Messrs. Truax, Greene, & Co.

Mr. Truax gives accurate descriptions of individual instruments, but for the most part he restricts himself in this respect to those that are representative of some essential idea. More than that, he gives general descriptions—and most admirable ones they are—of classes of instruments, with excellent definitions of the names by which they are known. In many instances also he gives lists of the instruments and other appliances that may be required in the performance of particular operations, a most useful feature for the inexperienced practitioner. As he is very clear and careful in his language, his meaning is quite obvious, and this is a rare excellence in writings descriptive of mechanical contrivances.

The preparation of the book has evidently cost Mr. Truax a vast amount of time and labor, but we do not doubt that he will be rewarded by many an expression of appreciation by the medical profession. He has produced an attractive and valuable work.

BOOKS, ETC., RECEIVED.

Kirkes' Handbook of Physiology. Fifteenth American Edition. Revised by Warren Coleman, M. D., Instructor in Clinical Medicine and Materia Medica in Cornell University Medical College, etc., and Charles L. Dana, A. M., M. D., Professor of Nervous and Mental Diseases in the New York Post-graduate Medical School, etc. With Upward of Five Hundred Illustrations, including many in Colors. New York: William Wood & Co., 1899. Pp. xi–840. [Price, $3.]

A Manual of Diseases of the Nose and Throat. By Cornelius Godfrey Coakley, A. M., M. D., Clinical Professor of Laryngology in the University and Bellevue Hospital Medical College, etc. Illustrated with Ninety-two Engravings and Two Colored Plates. New York and Philadelphia: Lea Brothers & Co., 1899. Pp. viii–2 to 536. [Price, $2.75.]

Ueber epitheliale Gebilde im Myometrium des foetalen und kindlichen Uterus, einschliesslich des Gärtner'schen Ganges. Von Dr. Robert Meyer, in Berlin. Mit 36 Abbildungen im Text und auf 11 Tafeln. Berlin: S. Karger, 1899. Pp. 154.

A Case of Paget's Disease (Malignant Papillary Dermatitis). By Maximilian Herzog, M. D. [Reprinted from *Medicine.*]

A Case of Œstrus Hominis. By Maximilian Herzog, M. D. [Reprinted from the *Medical News.*]

Remarks on the Histo-pathology of Syphilis. By Maximilian Herzog, M. D. [Reprinted from the *Chicago Medical Recorder.*]

Carcinoma developed in Primarily Non-malignant Kyst-adenoma of the Ovary. By Maximilian Herzog, M. D., and Fernand Henrotin, M. D., of Chicago. [Reprinted from the *Chicago Medical Recorder.*]

Rubber Gloves or Gauntlets: their Use by Physicians and Surgeons. By John E. Summers, Jr., M. D., of Omaha. [Reprinted from the *Journal of the American Medical Association.*]

Nephro-ureterectomy for Traumatic Hæmato-hydro-nephro-ureterosis. By John E. Summers, Jr., M. D. [Reprinted from the *Medical Record.*]

New Inventions, etc.

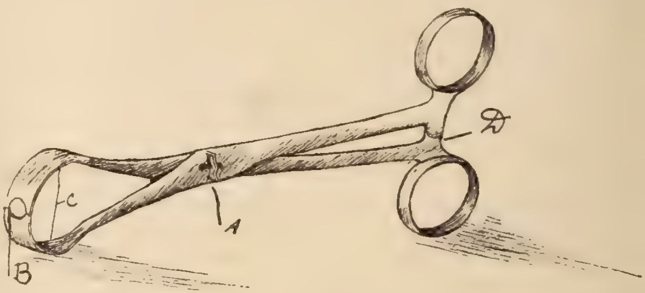
A NEW ENUCLEATION FORCEPS.

By George F. Suker, M. D.,

toledo, ohio.

The following figure is practically self-explanatory. However, a word or two concerning the advantages of the forceps may not be amiss.

Heretofore we have had no suitable enucleation forceps for grasping the eyeball which was intended to be preserved intact for pathological examinations or sections. Then, too, we have had no forceps which would obviate the rupturing of the globe when that was imminent during an enucleation; for the ordinary enucleation forceps only grasped the anterior section of the eye, and its teeth usually pierced the sclera, at the same time offering no uniform support, while this one offers just the reverse effects.



This forceps is based upon the principle of an obstetric forceps—*i. e.*, one blade is inserted at a time and then the two are locked, as can be seen in the illustration.

After the eyeball has been freed, as is customary in an operation for enucleation, one blade is introduced as far back as possible, then the other is likewise applied and both are locked. This being done, the eyeball is lodged between the blades and the optic nerve extends beyond the aperture as represented in the cut. The scissors are now passed along the curve of the forceps, and everything beyond its grasp is severed.

With this instrument one exerts uniform pressure and can obtain considerable traction, thus enabling one to sever the optic nerve well back and not close up to the sclera, as is usual with the old enucleation forceps.

The inner surfaces of the blades are corrugated, thus allowing the globe to remain firmly fixed.

The joint *A* is a set screw, thus allowing the blades to be locked at any angle desired.

The points *B* are mouse-toothed, thus firmly fixing the points when the forceps is locked at the handle.

The distance between the blades *C* is equal to the greatest diameter of the eyeball. *D* is a catch on the handle.

Various sized blades can be made for either very large or small eyes. However, an average distance of twenty-four millimetres is sufficient for all purposes.

The mechanism is very simple and permits the instrument to be perfectly sterilized. The blades are very thin, hence occupy very little space when inserted.

Miscellany.

The Mississippi Valley Medical Association.—The twenty-fifth annual meeting will be held in Chicago, on Tuesday, Wednesday, Thursday, and Friday, October 3d, 4th, 5th, and 6th, under the presidency of Dr. Duncan Eve, of Nashville. In addition to the president's address, the programme includes, besides an address in medicine, by Dr. J. A. Witherspoon, of Nashville, and an address in surgery, by Dr. Lewis S. McMurtry, of Louisville, the following titles: Enzymes and Immunity, by Dr. Charles T. McClintock, of Detroit; Recent Physio-chemical Researches as to the Physiological Action of Lecithin and other Organic Phosphorus Compounds, by Dr. L. H. Warner, of Brooklyn; Communal Hygiene, by Dr. Ernest B. Sangree, of Nashville; Some Phases of Malaria: Quinine in, by Dr. William Britt Burns, of Deckerville, Arkansas; The Treatment of Cystitis, by Dr. M. F. Lee, of Columbus, Ohio; Diabetes and its Constitutional Treatment, by Dr. Elmore S. Pettyjohn, of Alma, Michigan; The Treatment of Pulmonary Tuberculosis by Inhalation of Antiseptic Nebulæ, by Dr. Homer M. Thomas, of Chicago; The Management of Cases of Pulmonary Phthisis at Health Resorts, by Dr. Charles F. McGahan, of Aiken, South Carolina; The Treatment of Acute Lobar Pneumonia, by Dr. Ramon F. Garcin, of Richmond, Virginia; The Art of Diagnosis, by Dr. E. L. Larkins, of Terre Haute, Indiana; The Successful Treatment of a Case of Graves's Disease as an Auto-intoxication, by Dr. Charles L. Minor, of Asheville, North Carolina; Do we Need to Think? by Dr. William O'Neall Mendenhall, of Richmond, Indiana; The Evils: their Causes, and the Remedy that will Edify Medicine in the United States, by Dr. A. M. Osness, of Dayton, Ohio; Two Cases of Typhoid Fever with Unusual Complications in very Young Children, by Dr. E. B. Montgomery, Quincy, Illinois; Further Observations on the Treatment of the Abdominal Viscera through the Colon, by Dr. Fenton B. Turck, of Chicago; A Report of a Case of Complete Hernia of the Pregnant Uterus, by Dr. W. V. Anderson, of Toledo, Ohio; Leptomeningitis, by Dr. Frank Parsons Norbury, of Jacksonville, Illinois; The Pathogenesis of Functional Nerve Diseases and its Prophylactic Indications, by Dr. John Punton, of Kansas City; The Association of Hysteria with Organic Disease of the Nervous System, by Dr. Philip Zenner, of Cincinnati; The Clinical Psychiatrist in General Practice, by Dr. C. H. Hughes, of St. Louis; Temperament and its Influence, by Dr. Albert E. Sterne, of Indianapolis; Obstipation and its Radical Treatment, by Dr. Thomas C. Martin, of Cleveland; Intestinal Auto-intoxication; its Prevention and Treatment, by Dr. William F. Barclay, of Pittsburgh; Indigestion in Infants and Children, by Dr. James H. Taylor, of Indianapolis; Lithiasis, by Dr. Alexander Bate, of Louisville; Nephrolithiasis, by Dr. A. H. Cordier, of Kansas City; The Therapeutics of Infectious Conjunctivitis, by Dr. Dudley S. Reynolds, of Louisville; Suprarenal Gland as a Therapeutic Agent in Ophthalmology, Otology, and Rhinology, by Dr. Flavel B. Tiffany, of Kansas City; Introversion of the Iris, by Dr. L. W. Beardsley, of St. Louis; A Contribution to the Study of Lung Reflexes, by Dr. Marion K. Bowles, of Joliet, Illinois; The Treatment of Dysentery, by Dr. J. W. Knowlton, of Paint Rock, Alabama; Vesico-rectal Anastomosis, by Dr. J. Frank, of Chicago; Intolerant Ulceration of the Rectum, with a Report of Five Cases, by Dr. Sterling B. Taylor, of Columbus, Ohio; The Modern Surgical Treatment of Hæmorrhoids, by Dr. Gustavus M. Blech, of Chicago; Hæmorrhage from the Rectum and its Varied Importance as a Symptom, by Dr. Leon Straus, of St. Louis; The Treatment of Certain Ocular Diseases by Excision of the Cervical Sympathetic Ganglia, by Dr. James Moores Ball, of St. Louis; Urethral Endoscopy, by Dr. W. R. Blue, of Louisville; Inflammation of the Verumontanum, by Dr. J. Rilus Eastman, of Indianapolis; The Technics of Abdominal Incision, Peritoneal and Extraperitoneal, by Dr. S. E. Milliken, of Dallas, Texas; Mammoth Ovarian Cysts; Report of a Tumor weighing Two Hundred and Forty-five Pounds, by Dr. James B. Bullit, of Louisville; Some Causes of Death after Abdominal Section, by Dr. Louis Frank, of Louisville; The Value of Prostatic Examination, by Dr. J. Leland Boogher, of St. Louis; Intestinal Obstruction from Gallstones, by Dr. J. Wesley Bovée, of Washington; Obstructive Growths of the Pylorus, with a Report of a Successful Case of Pylorectomy, by Dr. J. E. Allaben, of Rockford, Illinois; What becomes of the medicinally treated Cases of Appendicitis? by Dr. Louis Schooler, of Des Moines, Iowa; Appendicitis from a Medical Standpoint, by Dr. I. N. Love, of St. Louis; A Plea for Early Operation in Appendicitis, by Dr. A. M. Hayden, of Evansville, Indiana; The Surgical Features of Appendicitis, by Dr. Hal C. Wyman, of Detroit; A Study of Twenty-seven Cases of Appendicitis, by Dr. Frank T. Merriwether, of Asheville, North Carolina; Certain Special Features in Hernia of the Female, by Dr. T. H. Manley, of New York; The Surgery of the Turbinated Bones, by Dr. J. A. Stucky, of Lexington, Kentucky; Nasal Stenosis due to Defective Sæpta and its Treatment, with or without Thickening of the Convex Side, by Dr. John J. Kyle, of Indianapolis; Mastoid Operation, with a Report of Cases, by Dr. George F. Keiper, of Lafayette, Indiana; Beta-eucaine as an Anæsthetic in Eye Surgery, by Dr. W. H. Poole, of Detroit; The Surgical Treatment of Chronic Frontal Sinusitis, by Dr. Richmond McKinney, of Memphis; Observations on the Surgery of the Brain, based on Clinical and Experimental Evidence, by Dr. George W. Crile, of Cleveland; The Removal of the Cervical Sympathetic for Epilepsy, Exophthalmic Goître, and Glaucoma, by Dr. Emory Lanphear, of St. Louis; An Arm Saved after being Run Over by a Railway Locomotive and Crushed, by Dr. S. L. Kilmer, of South Bend, Indiana; Suture Materials in Surgery, by Dr. Joseph Price, of Philadelphia; The General Treatment of Patients before, during, and after Surgical Operations, by Dr. Fenton B. Turck, of Chicago; The Modern Small-bore Projectile, by Dr. Augustus Schachner, of Louisville; The Effects of the Automatic Mauser Pistol, by Dr. J. D. Griffith, of Kansas City; Surgical Tolerance and Results, by Dr. F. F. Bryan, of Georgetown, Kentucky; and The Treatment of Gonorrhœa in the Female, by Dr. A. Ravogli, of Cincinnati.

The International Congress on Tuberculosis.—*Science* for September 15th states that the report of Sir Herbert Maxwell, M. P., F. R. S., and Dr. Pye-Smith, F. R. S., the delegates of the British government at the International Congress on Tuberculosis held at Berlin between May 24th and 27th last, has been issued as a parliamentary paper. The report states, as abstracted in the London *Times*, that the congress, which was opened by the Herzog von Ratibor, in the presence of the German Empress, consisted of a hundred and eighty delegates, appointed by and representing different states and universities and other public bodies. A number of papers were read, chiefly by German delegates, but nothing in the nature of a general discussion took place. The proceedings when printed will form a valuable *corpus* of scientific opinion on the subject.

Dr. Pye-Smith adds a memorandum on the medical aspect of the results of the congress. After giving in some detail the most important conclusions which were recognized—that consumption and other tuberculous diseases are caused by the presence and multiplication of the specific bacillus discovered by Professor Koch; that tuberculosis, as a condition directly transmitted by inheritance, is extremely rare; and that phthisis, or pulmonary tuberculosis, in particular, is not catching—Dr. Pye-Smith goes on to describe the following practical points in the prevention of tuberculosis as a widespread and destructive disease which were inculcated by various speakers at the congress:

A. The primary importance of free ventilation and wholesome and abundant food. Improvement in the dwellings and the food of the poorer classes in this country and their increasing cleanliness and sobriety have not only diminished sickness generally, but have directly reduced the number of deaths from consumption until the mortality from this cause is less in London than in any other large city. (It is, however, important to notice that the death-rate of young children from disease of the bowels has little if at all diminished. See Sir Richard Thorne's Harben Lectures.)

B. The prevention of infection of the lungs by the bacillus of tubercle depends chiefly on the rational treatment of the sputa of consumptive patients, or rather, for practical purposes, of the sputa of all those affected with cough and expectoration. The phlegm should never be deposited on the ground or on a handkerchief, where it can dry up; it should be kept moist until it can be destroyed by heat, and the vessel used to receive it should contain phenol or some other antiseptic solution.

C. The prevention of infection by tuberculous milk may be accomplished either by boiling all milk given as food to children or by inspection of dairies, so as to prevent tuberculous milch cows being used.

D. The prevention of infection by meat can be secured by careful and thorough inspection of carcasses, or by diagnostic testing of cattle with tuberculin. This, the only undoubtedly useful application of the so-called tuberculin, has the drawback that after the effect of the inoculation has passed off a tuberculous animal becomes immune to it for a time, and so may be passed as healthy. (It is said that cattle suspected of tubercle are thus rendered immune to the tuberculin test before being sent over the French frontier.)

Though the question of the treatment of phthisis was only a supplementary part of the work of the congress, Dr. Pye-Smith gives the following facts, which are, he says, " important for the people as well as their governors to be aware of ":

a. That tuberculous disease of the bones and joints, of the glands and skin and abdomen, though dangerous, is not incurable, and, by the modern methods of operative medicine, is in most cases successfully cured.

b. That tuberculosis of the lungs (phthisis, or consumption) is frequently cured, and probably more often now than formerly. (Curschmann, of Leipsic, fourth day of congress.)

c. That there is no specific drug which has direct influence upon consumption, but that many, both old and new, have valuable effects upon its complications. (On the Action of the New Tuberculin, see Briger's paper, on the second day of congress, and Dr. C. T. Williams in the *Royal Medical and Chirurgical Society's Transactions* for the present year.)

d. That abundant food, particularly of a fatty nature, and a life in the open air, are no less valuable in the treatment than in the prevention of phthisis, and that the hospitals and asylums for providing these essentials, which are now numerous in Germany, and far from rare in England, Austria and Hungary, France and the United States, are of essential value. That the " open-air treatment " has been long known and practised in the United Kingdom was handsomely acknowledged by Professor von Leyden (first day of congress). Compare papers by Kaurin (Norway), Westhoven (Ludwigshaven), J. R. Walters (London), Desider Kuthy (Budapest), Schmidt (Switzerland), Dómene (Spain), fourth day.

e. That the influence of climate, altitude, temperature, and dryness of the air and soil, of traveling and of sea voyages has been very differently estimated at different periods, and that, while each is in various degrees important, popular opinion probably exaggerates their power. (Herman Weber, of London, fourth day of congress.)

f. That the prospect of improved success in the treatment of tuberculosis in general, and of pulmonary tuberculosis in particular, by the advance of pathology and the progress of surgery and medicine, is a hopeful one, almost as hopeful as that of limiting the spread of the disease by preventive measures.

Primitive Surgery of Dislocations.—According to an editorial in the *Medical Age* for August 25th, some of the nomadic tribes inhabiting the interior of Afghanistan, living as they do hard and isolated lives, entirely away from the scientific and medico-surgical progress of the world, maintain to this day some of the most primitive of practices for righting themselves whenever they suffer from accidents involving a disjointing of bones. The method commonly employed by them for the reduction of dislocations is certainly original, and naturally more successful than similar operations upon European or American subjects would be. For the dislocation of the thigh, the unfortunate patient is sweated and starved for three or more days in a dark room, the atmosphere of which is heated by fires kept burning night and day; and the effects of this high temperature are further increased by drenching with copious draughts of warm rice water or thin gruel. While this treatment is being enforced, a fat bullock or buffalo is tied up and fed *ad libitum* with chopped straw flavored with salt, but is rigidly denied a drop of water or other liquid. Usually on the third day the patient is made to ride the animal astride, a felt alone intervening between him and the hide, his feet being drawn down and fastened tightly under the animal's belly by cords passing around the ankles. These preliminaries arranged, the animal is led out to water, where it is allowed to drink so greedily and inordinately that its belly swells to nearly double its former size. The stress produced by this upon the dislocated limb is sufficient to bring the wandering bone back to its socket, or else it produces more serious results, liable to render the sufferer a helpless cripple for life.

The method of reducing a dislocated shoulder is quite as curious and interesting. It is managed thus: The hand of the dislocated member is firmly fixed as closely to the opposite shoulder as it can well be, by cords tied around the wrist. Then between the bend of the elbow and the chest is placed an empty goatskin bag, in common use throughout Oriental countries as a means for carrying water, which is gradually filled. The slowly increasing weight suffices to overcome the resistance of the muscles before they have borne it very long, and, as in the previous instance quoted, either betterment or further injury soon results. These water bags, when full, weigh close upon a hundredweight, and occasionally more than that. For a reduction of dislocation of the ankle joint, the injured extremity is placed in a hole dug in the ground and covered over with soft earth, firmly pressed down. The limb is then pulled out by force, and with a fair chance of the joint returning to its former shape and position.

McGill University proposes, according to *Science* for September 1st, to erect at the cost of seventy thousand dollars a building for its departments of hygiene, pharmacology, and medical jurisprudence. In the medical department of this university Dr. T. J. W. Burgess has been appointed professor of mental diseases.

Experience, Judgment, and Luck.—Dr. Nelson W. Wilson (*Buffalo Medical Journal*, September) tells the following trenchant stories:

"When a new doctor begins practice he takes his first lesson in experience—judgment follows as a matter of course. If the Lord is with him, and his patient has fighting powers, his judgment is apt to be good. In other words he has luck. Three cases will illustrate the triple title of this article.

I. "In the days of the first flush of college weaning, when the faculty had signed themselves down on my diploma, and the great State of New York, through the regents, had officially certified to my ability to practise medicine and surgery, and given me a legal right to charge for my services, I was called to see a young woman who had come to Buffalo from the Queen's colony across the river, full of shame and a story of wrong. She had all the preliminary requirements for membership in a mother's congress, save a marriage certificate and a ring. Being naturally sympathetic and anxious to show my interest in the fortunes and misfortunes of my patients, I listened to her long story of how it all happened.

"Still, as a sort of reward for my sympathy and services to be rendered, I was informed that the gentleman who was at fault in the matter was willing and ready—nay, anxious—to pay all expenses of her illness. This and the fact that I was practising with all the earnestness, if not the ease, of a 'real paid doctor, who carries a bag,' enthused me. How I discovered that the young lady was also suffering with gonorrhœa is quite as long and quite as sad as the story of her life. Truly, the gentleman, secure under the protecting folds of the red cross of St. George, was lavish with his favors. I can not truthfully say that he killed two birds with one stone, but it seemed, figuratively speaking, to amount to that.

"At any rate, I went to work. Twice a day I visited that woman for days and days and days; I irrigated her carefully and conscientiously, and happy was the day when the discharge had ceased and she was rid of one trouble with the other looming up in the near future.

"I saw her, then, every few days after that for a few weeks, sympathizing with her, cheering her, and looking wise. And one morning I called and found that she was free from trouble and that her baby had been born in the early morning hours, without any discomfort to speak of, and that a neighboring physician had been called in after the birth of the baby and had taken charge of the case. While I was there he came in. He was an oldish man, with a supernaturally wise look and ragged whiskers. *En passant,* always get to windward of a supernaturally wise-looking man who wears his whiskers ragged. He had assumed charge, and he had a snap lock on that case. He could not relinquish the care of that baby nor that woman. He always 'saw a labor case through,' he said. And he did. Oh, yes, I would be recompensed for my share of the work.

"He saw the case through, and the gentleman in Canada paid forty dollars, good United States dollars, to my friend with the supernaturally wise look and the ragged whiskers. I was, to use a racing term, among the 'also rans.' I felt for a long time like that 'fore-and-aft' regiment Kipling wrote about, which was stalked and potted from out the dark by the heathenish, knife-wielding Paythans. That is experience."

II. "'I've had four children, an' I'm not goin' to have any more, doctor, not if I can help it, for th' old man's got a bad habit of drink, and the rent comin' due every thirty days, an' me doin' a full day's washin' every day for six days out of seven, to keep the sheriff out of th' house. I'm near four months gone now, an' can you gimme somethin' to help me?'

"That was the opening statement of her whom I call my judgment patient. I used, in answering her, the words of an old practitioner who had given me the benefit of his years of wisdom in many a comfortable hour's talk.

"'You want to get rid of it?' I asked.

"'I do,' she said.

"'If you will do as I say, I will guarantee that you won't have any trouble. You go home and live as you have been living. Take care of yourself. Don't overwork and in five or six months you will be all right.'

"She came of a quick-witted race and she saw the point. She was good-natured about it, too. Two weeks later, I was sent for. It was Sunday, at eleven o'clock in the morning. I found her in bed.

"'It came,' she said, pointing vaguely at the bedclothes. She turned back the coverings and there between her thighs, wrapped in a piece of sheet, lay a fœtus, probably four months, dead and dry, the clothes stained and hardened, the fœtus attached to the cord, which passed into the vagina.

"'When?' I asked.

"'Last night, about eight o'clock,' she answered. That dead fœtus had been there fifteen hours. Then I was stricken with a dash of judgment.

"I covered up the little corpse and sat down and wrote a note to my old doctor friend, asking him to come. He came at once. While awaiting him I gathered the history. The previous Tuesday, 'after a hard day's washing,' she had pains. They continued all Tuesday night and Wednesday. They eased up on Thursday; on Friday there were more, and still more on Saturday. On Saturday afternoon at six o'clock she went to bed, and at eight o'clock the fœtus had come away dead. It was attached. She waited an hour or so for the placenta, and as it did not come, she had tugged on the cord, but could not budge it. All Saturday night and early Sunday morning she had at different times tugged at the cord and, failing to get it clear, had sent for me. I had recently delivered a woman in her sixth confinement in the house where she lived. The case was perfectly normal and things went along with neatness and dispatch. This woman was present, and I presume she looked upon me as a sort of a boy wonder.

"When my old doctor friend came, I caused her to repeat the story to him. He saw the condition of affairs and after cutting away the fœtus, tried to clean out the uterus with his fingers. He could not, and so finally he curetted her. She was in anything but good shape. She recovered ultimately, however, under my old doctor friend's care. She probably would not had I plunged ahead on my own responsibility, and then there would have been all sorts of ugly aspects to the case. I consider that my judgment centre was working full time when I sent for assistance and a man of years and irreproachable standing. He found things as I found them and he assumed charge. It was a charity case and that made me feel content at his compliment: 'You showed great judgment in sending for me in a case like this.'

III. "The luck case came to me recently with this history: Six weeks previously she had a miscarriage. She was employed on a lake vessel, and believing that everything had come away continued her duties. She flowed considerably for a week. Then the flow lessened for a few days, only to begin again. This kept up for four weeks. She had lost considerable blood, evidently, for she said she was very weak. She went to a doctor in one of the cities at which the boat stopped, and 'he put pincers in and took out the afterbirth.' That was two weeks previous to her visit to me, and she had been flowing most of the time since. She was very anæmic and weak. Her legs were œdematous and she was, as she expressed it, 'not a bit of good for anything.'

"I found the cervix dilated sufficiently to admit my index finger, and I felt and removed a piece of placenta the size of a silver dollar. The uterus was thoroughly cleaned out and irrigated. Her urine was examined and found to be albuminous. She was instructed to rest, was put on Basham's mixture and strychnine, and she sailed away in her boat on its next trip out a few days later, her duties being assumed by another woman. When the vessel touched Buffalo on its return trip I saw her. She reported that there had not been any flowing whatever, her urine had cleared up, the œdema was about gone, and her lips were getting toward their natural color. She was feeling better, too, and stronger.

"If there is an element in this case more predominant than another, it is luck. Here was a woman who had every opportunity of entering upon a long and a dangerous siege of sepsis. I don't pretend to figure out how she escaped. I only know that she did, and I attribute it to luck."

The Air of the "Black Hole of Calcutta."—The *Indian Medical Gazette* for August says that recent experiments in regard to the processes of respiration show that poisonous leucomaines, allied to the alkaloids and the ptomaines of putrefaction, arise within the body by respiratory oxidation and are expired in a volatile form. The deadly effects of the atmosphere of the "Black Hole" of Calcutta were doubtless largely due to these poisonous leucomaines, and not merely to the expired carbonic acid, as has hitherto been supposed.

To Remove the Odor of Iodoform.—Dr. Edwin Ricketts, of Cincinnati (*Lancet-Clinic; Buffalo Medical Journal*, September), says that to do away with the smell of iodoform that comes to the hands of the surgeon from handling it, he finds that after use of soap and water, a teaspoonful of vinegar (found in every household), rubbed on, does away promptly with the very disagreeable odor.

From a Practical Point of View.—A writer on extra-uterine pregnancy, in a contemporary, describes the patient in his first illustrative case as a "widow, though practically married." Some people might consider this description as suggestive of a blemish. On the contrary, it signalizes the tact of its author, for "practice makes perfect."

Indirect Newspaper Advertising.—The *Georgia Journal of Medicine and Surgery* for August concludes with the following excellent remarks a sensible and praiseworthy editorial against newspaper notices of physicians and their work, such as are commonly seen, we regret to say, nowadays in the sensational journalistic prostitutes of the present day: "It is mere subterfuge to say that we can not help what the reporters do. We certainly can help it if we wish to do so. Let them report the cases we have attended if they wish to. Let them laud our work to the skies if that is their desire, but let us beg of them to mention us as Dr. X, Y, or Z, and not by our proper names. Let us refuse to supply them with our pictures, and to tell them for publication of other great deeds we have done, or volunteer the information of where we were born and where we studied. All that any medical man can do in this age of collective discovery is to act on knowledge he has acquired from others. To take the credit to ourselves in these newspaper puffs of some operation done or cure accomplished is to claim for ourselves individually what belongs by right to the whole profession. Render unto Cæsar the things that are Cæsar's is an ethical command of undoubted validity."

THE NEW YORK MEDICAL JOURNAL, OCTOBER 7, 1899.

Original Communications.

A REPORT OF
FIVE CASES OF SCOLIOSIS AND ONE CASE OF FLAT FOOT TREATED BY THE TESCHNER METHOD.*

BY LOUISE ERICH, M. D.,
BALTIMORE.

THE five cases of scoliosis described in this report were treated by the system of physical exercise which was originated by Dr. Teschner, of New York.

It is founded upon the belief that the want of equilibrium of the muscles on either side of the spinal column in scoliosis is caused by a weakened or rudimentary condition not only of the muscles of the back, but of the muscular system in general; and that to benefit such patients it is therefore necessary that the muscles of the entire body should be developed, educated, and strengthened to the fullest extent.

In all cases which are amenable to treatment, all supporting or immobilizing appliances should be dispensed with, as they interfere with mobility, and thus, by weakening the muscles of the back, chest, and abdomen, counteract the good effects gained by treatment.

All movements should be performed before a mirror in a tightly fitting Jersey suit, so that the slightest error in attitude can be immediately detected by the patient. In this way an habitually correct position is cultivated.

In a paper published in the *New York Medical Journal*, May 23, 1896, Dr. Teschner says:

"Taking the standpoint that (1) lack of strength and lack of muscular development, (2) habitual faulty position with superimposed weight, and (3) lack of coordinating power or lack of muscular control are the more potent ætiological factors in producing deformities, it is and has been my aim, and I believe I have succeeded, in correcting deformities by reversing these conditions—that is, (1) by developing the muscles and their strength; (2) by acquiring an habitually corrected position with superimposed weight; and (3) by educating all the muscles to proper coordination and to complete control.

"A pair of dumb-bells, weighing from half a pound to five pounds, are used in a series of twenty-six exercises for the development of the muscles.

"In addition to the development exercises, I give the patients work with heavy bars and bells at each visit to my office. The weight of the bars and bells, and the number of times that each heavy weight or pair of weights is handled, depend upon the strength, capacity, and upon the endurance of the individual. It is my practice to put each patient to his or her individual limit of work at each visit, and that limit is invariably extended at each succeeding visit, unless the patient is indisposed. The strength and endurance, as shown by the amount of weight handled and the number of times each weight and set of weights are handled, increase very decidedly in every case from one visit to another. This increase is largely dependent upon correctness of posture and precision in the work. This is a matter of record in all my cases, as I keep a tabulated statement of all the work, designating the weights used and the exact number of times each exercise has been performed. This heavy work develops the strength to the fullest extent, and it is by means of this work that I have been enabled to correct severe deformities even where bony and ligamentous changes and marked rotation were present. This is my corrective work, which I will demonstrate:

"Bells, weighing from five to eighty pounds each, and steel bars and bar bells, weighing from twenty-six to over one hundred and eleven pounds, are used in different ways. Bells are pushed from the shoulders above the head alternately as often as the patient can.

"The patient is instructed to swing a heavy bell with one hand from the floor above the head and down again, the elbow and wrist being fixed, and the motion repeated as often as possible in a systematic manner; then with the other hand the same number of times, and later with both. This exerts all the extensor muscles from the toes to the head in rapid succession.

"When a heavy bell is pushed or swung above the head on the side opposite the scoliosis, the action of the back muscles to sustain the weight and equilibrium is such as to cause the curved spine to approximate a straight line. A similar result is produced when a heavy weight is held by the side of the erect body on the scoliotic side, the arm being at full length.

"When a heavy bar is raised above the head with both hands, the patient must fix the eyes upon the middle of the bar to maintain an equilibrium. This necessitates the bending of the head backward, the straightening and hyperextending of the spine, and consequently correcting a faulty position with a weight superimposed. The heavier the weight put above the head, whether with one hand or with two, the more the patient must exert himself or herself to attain and maintain a correct or an improved attitude in order to sustain the equilibrium. (By an improved attitude I mean the greatest amount of correction of the deviation of the spine that the fixation of a deformity will allow of.) Hence, the greater the weight, the more forcible the actions of the muscles become, and the greater the temporary reduction of the deformity. It is by means of frequent and forcible temporary reductions of deformities, by voluntary muscular action, that we can hope to improve, and do improve, those cases which are amenable to any form of active treatment.

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* Read before the Clinical Society of Baltimore, May 19, 1899.

"When a patient, lying supine upon the floor, raises a heavy bar above the head so that the arms are perpendicular to the floor, the weight of the bar, the position and weight of the body, and the action of the muscles tend to broaden the entire back and shoulders, and a slow downward movement tends to widen the entire chest, and most markedly at the shoulders. The frequent repetition of the upward and downward movement plays an important part in the rapid development of the chest and back. Pushing the bells above the head, swinging them with each hand, separately and with both hands together, raising a bar above the head, standing and lying down, and the exercises before enumerated constitute one day's work.

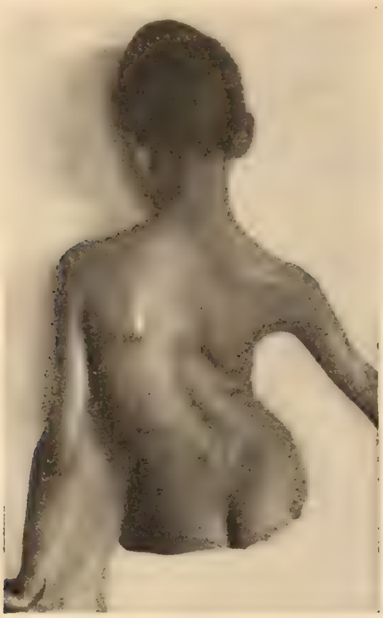

FIG. 1.—Case I, September 17, 1896.

"As the amount of work performed by a patient depends upon the last previous record of that patient, that record must be improved upon at each succeeding visit, unless there be a good and sufficient reason to the contrary. Most patients can well stand three treatments a week. In mild, habitual cases improvement in deportment is noticed by the patients' relatives and friends and by the patients themselves within the first two weeks. In those cases two months' treatment usually suffices to effect a complete cure. In the more severe cases it is not and can not be expected to attain such rapid results, but a certain appreciable improvement is effected, and the amount of improvement depends upon the persistent continuance of the treatment. Where there is a fixed rotation of long standing, with bony and ligamentous changes, the prospects are not so good; but even in those cases I am sure I have shown considerable improvement in their conditions.

"In closing, I wish to call your attention to certain facts which I have observed in the treatment of my cases, and which should commend this system to the preference of all other methods.

"1. It is rapid, improvement being noticed by the patients, their relatives, and myself within a week or ten days after treatment has begun.

"2. The improvement in general health and the increase of weight.

"3. The wholesome effect upon the nervous system by the cultivation of muscular precision and endurance.

"4. The marked increase in lung capacity.

"5. The beneficial effect upon the heart's action, as shown by the diminished frequency of the pulse and the increase of pulse pressure after each treatment, as shown by Basch's sphygmomanometer.

"6. That all patients continue to improve generally and muscularly long after active treatment has ceased.

"In defending this heavy work against the adverse criticisms of those who might condemn it, either from hearsay knowledge of its baneful effects or from their own observations of athletes who have been 'trained down' for special work, I cite the following facts, viz.:

"The general health has been good. The heart's action has become more vigorous, as shown by the diminished frequency of the pulse and the increased pressure indicated by Basch's sphygmomanometer.

"The weights, chest capacities, chest depths, girths, breadths, and strength tests are generally increased, the abdominal depths are decreased, and the feet, the foundation of correct posture, are improved, inasmuch as all flat feet become shorter and the normal feet grow.

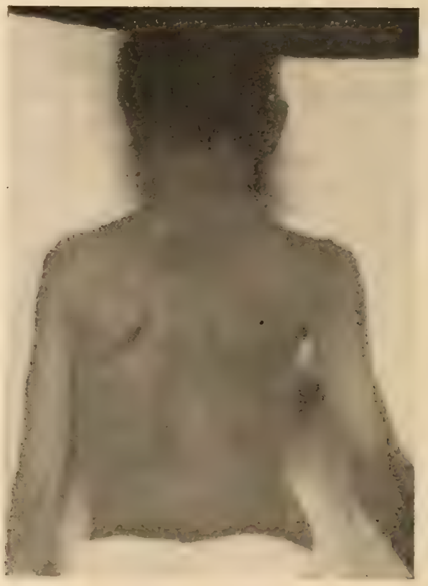

FIG. 2.—Case I. December 5, 1896.

"All this should prove that they are not overworked."

This lengthy quotation gives an accurate description of the method as used by Dr. Teschner. I have followed his directions with two exceptions—viz.:

1. My patients have never, with one exception, used a bar weighing over sixty-one pounds, and rarely dumb-bells weighing over twenty-five pounds.

2. They are not required to lift more at each succeeding treatment, and are never permitted to lift an amount which causes discomfort.

As a result, it requires a much longer time to detect improvement than by the more vigorous measures used by Dr. Teschner. My patients do not, as a rule, show marked improvement in less than six weeks. By comparing Dr. Teschner's photographs with my own, it will be found that his patients gain as much in three weeks as mine do in two or three months.

I feel justified in using the method thus modified, however, as I believe that in the end my results are quite as good as Dr. Teschner's, with the advantage of never causing the slightest discomfort at any time and not overworking the patient's heart. On one occasion I had reason to believe that my patient's heart was somewhat overworked after one of the heaviest of the exercises, and I consider it far better to go slowly than to run the slightest risk. And the patients do not progress as slowly as might be imagined from this very lenient manner of conducting treatment. They invariably become very much interested, and there is always a spirit of friendly rivalry among them, each one trying to outdo the others. In fact, they often beg to be allowed to lift more than I am willing to permit. In this way their strength gradually increases day by day, until finally they are able to lift what would ordinarily be considered enormous weights with very little apparent discomfort. Not only this, but they have remarked again and again that about ten minutes after the conclusion of each treatment they are so much stronger that they feel as if it would be possible to do even more than the amount just accomplished, could the treatment be repeated immediately.

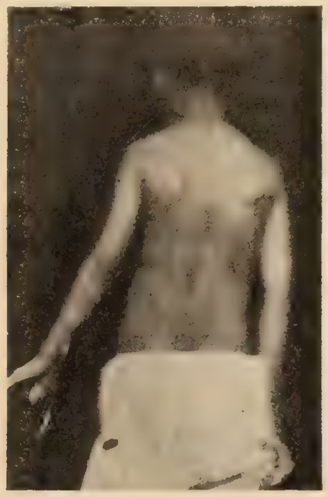

FIG. 3.—Case II, December 5, 1896.

CASE I.—Colored, aged ten years, September 17, 1896. Her mother first noticed a curvature of the spine at four years of age, which became rapidly worse between the seventh and tenth years.

Examination revealed a very severe S-shaped curve, which is well shown in the accompanying photograph. The patient was a small, delicate mulatto, living under all the disadvantages of extreme poverty; but, in spite of this, she improved rapidly between September 17 and October 13, 1896. After this the gain was very much slower; and, although not cured, the deformity was sufficiently reduced at the end of the first year not to be noticeable through her clothing.

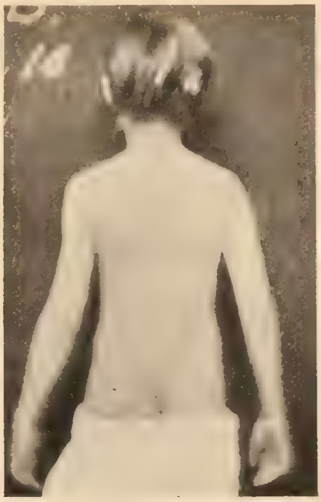

FIG. 4.—Case II, May 10, 1897.

When this child came under my care she had been wearing a plaster jacket; and, as she was one of my first patients of this class, I had not the courage to order it removed, as I would surely have done later. This is the only case which I have ever allowed to wear a support of any kind.

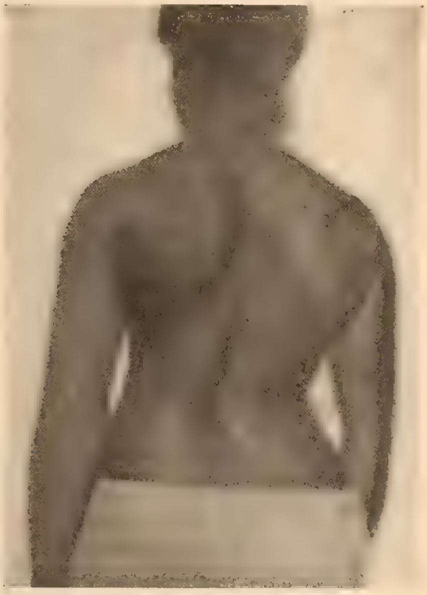

FIG. 5.—Case IV, February 22, 1998.

CASE II.—Aged nine years, December 1, 1896. This patient was taken by her father to Dr. Edith Eareckson because of continual pain in her back for two weeks, which became very severe at the end of that time. Dr.

Eareckson found a C-shaped curve in the lumbar region, and referred her to me for treatment.

The patient's general health was poor, and she had been suffering from chorea for eleven months. After exercising two months, from December, 1896, until February, 1897, the spinal column became perfectly straight, but there was still a slight inequality in the shoulders and hips, which finally yielded. She was discharged cured in June, 1897, and up to the present time has had no indication of a return.

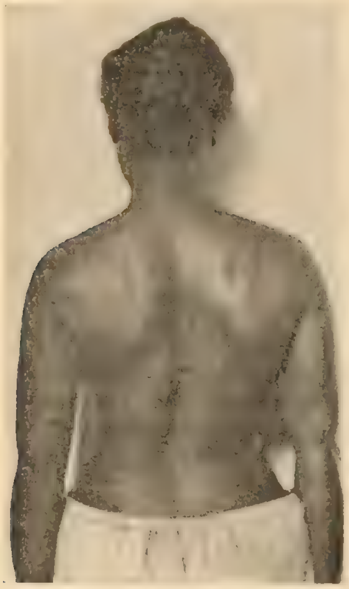

FIG. 6.—Case IV, May 26, 1898.

It is interesting to note in connection with this case that the choreic twitching ceased after a few weeks of treatment. It was not a severe case, it is true, but the twitching was too pronounced to escape the notice of even a casual observer.

CASE III.—Aged fourteen years, September 17, 1897. The mother of this child first noticed the curvature of her spine about a year before consulting me. Examination revealed a severe S-shaped curve, convexity right in dorsal, left in lumbar region.

This patient was delicate during childhood, but had good general health after her ninth year. At about five or six years of age she had an attack of rheumatism, leaving a mitral systolic murmur as the result. For this reason it was necessary to use the utmost care in giving the necessary treatment, all heavy exercises being performed by the patient supine upon a table. As a proof that she was not injured by it, her family physician pronounced her heart in better condition at the end than before beginning the treatment.

She improved most rapidly during the first five weeks. After this, although the improvement continued steadily, it was very much more gradual. The change was so great, however, that in eight months the deformity was scarcely perceptible through her clothing. At the end of this time the patient left Baltimore permanently. I can therefore not say what her condition is at present, not having seen her for nearly a year.

Unfortunately, I have no good photographs of this case.

CASE IV.—Colored, aged twenty-six years, February 20, 1898. This patient does not recollect when her spinal curvature began, but never felt inconvenienced by it until two years before consulting me. During the said two years she occasionally had pain in the right side, which was diagnosticated muscular rheumatism, and treated as such. About six weeks before I saw her this supposed rheumatism became a continuous pain, from which she was not relieved at any time.

Examination revealed a well-marked C-shaped curve, convexity left, in the lumbar region, iliocostal curve obliterated on the right side; carriage poor.

The patient began treatment February 20, 1898, and continued until she left the city, May 28th. She returned November 23d of the same year, has improved steadily, and does not suffer with pain in the right side any longer.

It is interesting to note that, in addition to curvature of the spine, this patient had perfectly flat feet, which were never free from pain, according to her statement, for ten years before she came under my care. This pain persisted more than three months after she was under treatment for scoliosis, when, to my surprise, it left both feet November 29, 1898. The light foot exercises, which are a part of the Teschner method, had evidently strengthened them sufficiently to remove the pain, although they had not improved the shape at this time.

This happy result suggested the thought: As the cause of scoliosis and flat foot are identical, why not give both the same treatment? I immediately began foot exercises gradually increasing in severity until she was finally able to rise on her toes fifteen times without intermission, holding a hundred-pound bar in her hands, and go through other exercises seated on a high stool with a twenty-five pound dumb-bell suspended from either foot.

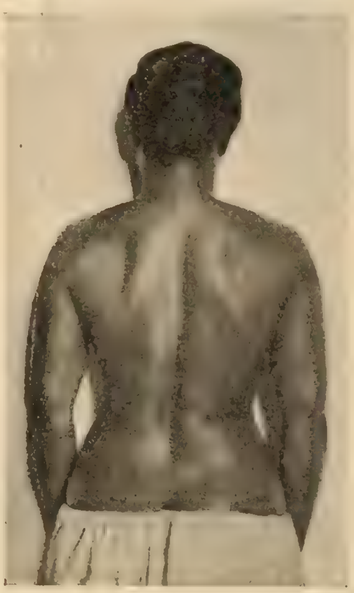

FIG. 7.—Case IV, December 18, 1898.

The result has been most gratifying. After November 29, 1898, the pain did not return until December 25th. Between December 25, 1898, and January 22, 1899, the feet were painful again at times, although not so severe as formerly. After January 22d until her last treatment before leaving the city, May 18th, the right foot was absolutely painless, while the left was slightly painful occasionally at long intervals. In addition to this, March 9, 1899, the arches of both feet, especially the right, began to rise, and the improvement in shape has steadily continued since that time.

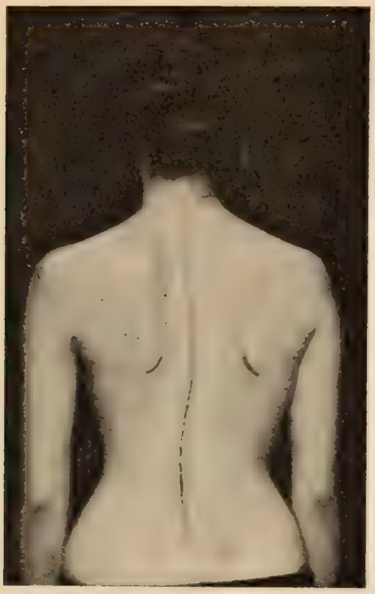

FIG. 8.—Case V, October 13, 1898.

CASE V.—Aged seventeen years, May 10, 1898. The mother of this patient first noticed her deformity at thirteen years of age. From that time until she came under my care she had been constantly under treatment with very little, if any, improvement, according to the statement of her mother.

Examination revealed a slight C-shaped curve, convexity right in dorsal region. Distance from left scapula to vertebræ, two inches; right scapula to vertebræ, three inches. Front view, cartilages of floating ribs more prominent on left than right side. Right leg half an inch shorter than left. The patient was ordered to wear a half-inch cork sole in her right shoe.

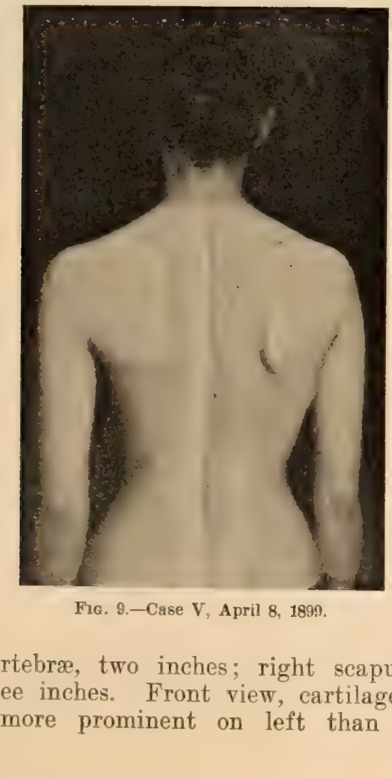

FIG. 9.—Case V, April 8, 1899.

This patient was under my care six weeks, during May and June of 1898, when she left the city for the summer, and returned October 11, 1898, not quite so well as when she left; the curvature increased slightly during her absence. She continued treatment until May 11, 1899, and the result has been gratifying, as shown in the photographs.

146 HENRY STREET.

ACUTE SUPPURATIVE PROCESSES IN THE FAUCIAL TONSILS.*

BY J. L. GOODALE, M. D.,
BOSTON.

IN January, 1899, the writer read before the Boston Society of Medical Sciences a preliminary communication concerning a pathological lesion found in four out of sixteen cases of acute amygdalitis, characterized by the presence of intrafollicular abscesses, occurring as complications of the usual proliferative changes. Since then four additional cases have come under personal observation. In the paper referred to the histological lesions alone were described in detail. The purpose of the present communication is to review the eight cases that have thus far come to hand with regard to their main clinical and pathological phenomena. It was hoped that a study of them might throw some light upon the following subjects:

I. The ætiological relationship of these intrafollicular abscesses to special micro-organisms.

II. Their relationship to peritonsillar inflammation.

III. Their prognostic significance and the possibility of recognizing their presence from clinical appearances.

In each case notes were made with regard to the following points:

1. The clinical history.
2. The macroscopic appearance of the tonsils.
3. The micro-organisms cultivated from the surface of the tonsil previous to excision.
4. The histological phenomena, with special reference to (*a*) the intensity of the proliferative phenomena, (*b*) the number and size of the suppurative foci, (*c*) the amount of fibrinous exudate in the crypts, and finally (*d*) the number and character of the leucocytes in the interfollicular lymph channels and connective-tissue spaces near the base of the organ.

Technique.—The tonsil, after excision, was immediately cut vertically to its base into a series of slices, each of about five millimetres in thickness. Each slice was laid between two strips of paper in order to preserve its outlines during the process of hardening. The slices were then placed alternately into Zenker's fluid and alcohol. The Zenker specimens were stained by eosin and alkaline methylene blue, which differentiates the various cells better than any other stain known to the writer. The lymphoid cells become deep blue; the endothelioid cells of the reticulum and the endothelial cells of the blood-vessels are stained a pale pink; the epithelioid phagocytes are conspicuous through their digestive vacuoles, incorporated substances, and deeper pink cytoplasm. An abscess in the centre of a follicle can be immediately recognized by the bright red color of the cytoplasm of the polynuclear neutrophiles, forming a sharp contrast with the light pink cytoplasm of the surrounding endothelioid cells. If, however, alcohol or corrosive hardening be employed in place of Zenker's fluid, the cell outlines are so altered and the selective affinity of the cells for the stain rendered so poor that it is often difficult to recognize small abscesses or even to differentiate the endothelioid cells and the epithelioid phagocytes. In staining for bacteria by Gram's method, alcohol hardening remains preferable, since Zenker's specimens do not permit a satisfactory decolorization of their nuclei.

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* Read before the American Laryngological Association at its twenty-first annual congress.

CASE I.—A lad, twenty years of age, amygdalitis of six days' duration, with moderate constitutional disturbance. Tonsils moderately reddened and enlarged with considerable exudate in the crypts. Circumtonsillar region showed no reddening or swelling. Cultures showed streptococci and staphylococci equally abundant. Histologically one of the tonsils exhibited a marked proliferation of the endothelioid and lymphoid cells, an occasional small intrafollicular abscess, and a slight amount of fibrinous material in the crypts. The interfollicular lymph channels and the fibrous-tissue spaces near the base of the tonsil showed an increased number of lymphoid cells and polynuclear eosinophiles, but few or no polynuclear neutrophiles.

CASE II.—A lad, twenty years of age, came with acute reddening and swelling of the tonsils, associated with moderate constitutional disturbance of two days' duration. A small amount of exudate was present in the crypts. The peritonsillar region was normal. Cultures showed numerous colonies of *Streptococcus pyogenes*, with a few of *Staphylococcus pyogenes aureus*. Histologically, the tonsil exhibited marked proliferative lesions, with an occasional suppurative focus in the interior of a follicle. A moderate amount of fibrin was present in the crypts. No multinuclear neutrophiles were seen in the interfollicular lymph spaces or in the connective-tissue spaces near the base of the organ.

CASE III.—A man, twenty-five years of age, subject to recurrent and severe attacks of amygdalitis, came with fever, joint pains, and general prostration of two days' duration. The tonsils were enlarged, reddened, with dilated crypts filled with exudate. The peritonsillar region appeared normal. Considerable swelling of the angular cervical lymph glands was present. Cultures showed numerous colonies of *Streptococcus pyogenes.* Histologically, the tonsil exhibited marked proliferation of the endothelioid and lymphoid cells, with a considerable number of small intrafollicular abscesses. A moderate amount of fibrin was present in the crypts. No multinuclear neutrophiles were seen in the interfollicular lymph spaces or connective tissue near the base of the tonsil.

CASE IV.—A girl, fifteen years of age, with fever and constitutional disturbance of several days' duration, showed considerable reddening and enlargement of tonsils, with exudate in the crypts and several subepithelial white streaks and spots. The circumtonsillar region was normal. Considerable acute cervical lymphadenitis was present. Cultures showed colonies of *Streptococcus pyogenes* and staphylococci. Histologically, the tonsil showed marked proliferative changes, with a moderate number of intrafollicular abscesses. The crypts contained unusual numbers of streptococci and considerable fibrin. The lacunar mucous membrane showed extensive necrosis. No multinuclear neutrophiles were seen in the interfollicular lymph channels or in the connective-tissue spaces near the base of the tonsil.

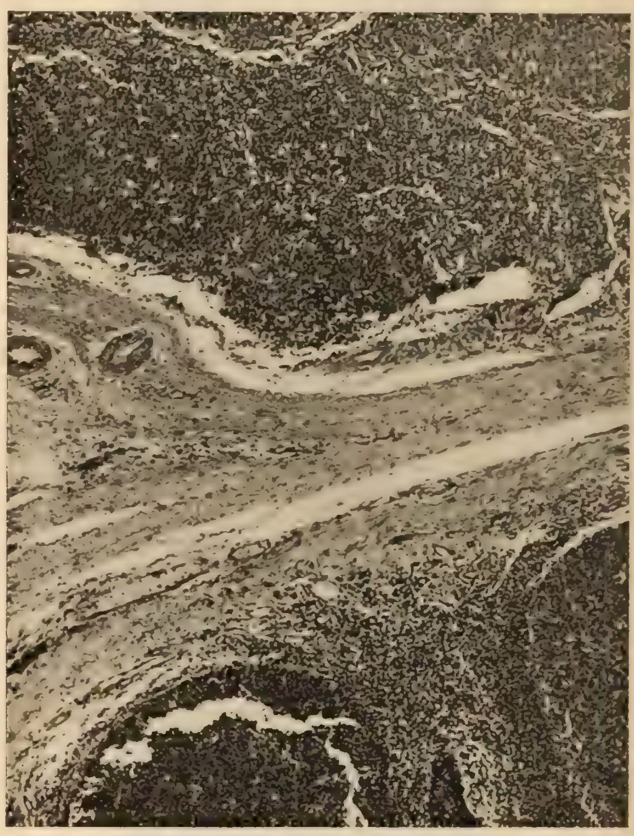

FIG. 1.—(Zeiss, planar objective, twenty millimetres. No eyepiece.) Section through tonsil near base in a case of simple proliferative amygdalitis. The interfollicular lymph channels and connective-tissue spaces contain small numbers of lymphoid cells, but no multinuclear neutrophiles.

CASE V.—A girl, fifteen years of age, came with fever and sore throat of two days' duration. The right tonsil showed considerable swelling and reddening, with much exudate in the crypts. The circumtonsillar region was normal. Cultures showed colonies of *Streptococcus pyogenes* and staphylococci. Histologically, the tonsil exhibited marked proliferation with numerous small foci of suppuration in the follicles. A moderate amount of fibrin was present in the crypts. No multinuclear neutrophiles were found in the interfollicular lymph spaces or in the efferent lymph channels.

CASE VI.—A boy, twelve years of age, came with constitutional disturbance of four days' duration, and showed reddened and swollen tonsils, with exudate in the crypts and subepithelial white spots. The peritonsillar region was normal. Cultures showed numerous colonies of *Streptococcus pyogenes* and staphylococci. Histologically, numerous intrafollicular abscesses were seen, some small and others discharging their contents into the crypts. The crypts contained a large amount of fibrin. No multinuclear neutrophiles were found in the interfollicular lymph spaces or efferent lymph channels.

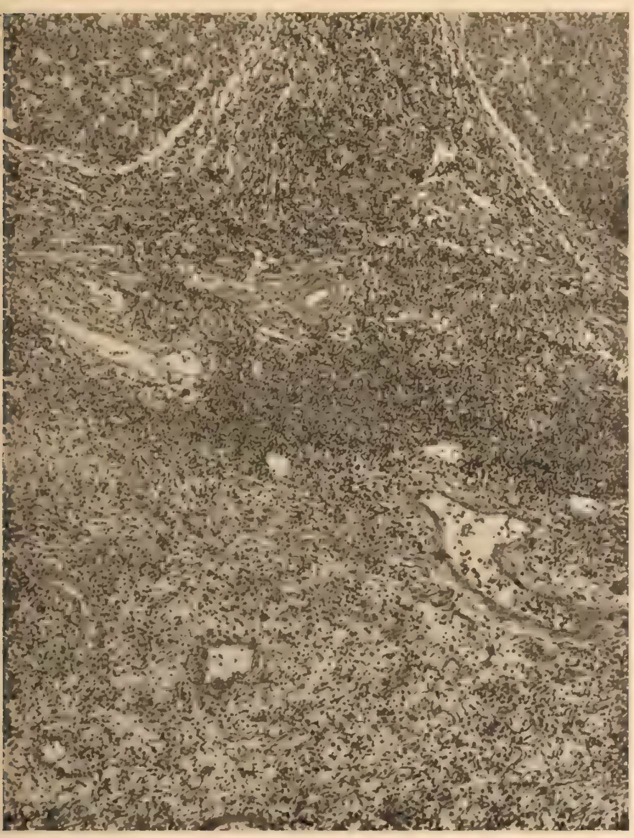

FIG. 2.—(Zeiss, planar objective, twenty millimetres. No eyepiece.) Section through tonsil near base from a case of intrafollicular abscess formation associated with circumtonsillar suppuration. The interfollicular lymph spaces are crowded with multinuclear neutrophiles in company with a smaller number of lymphoid cells. Endothelial proliferation is markedly increased, as shown by the numerous large phagocytes in the interior of the two follicles at the top of the figure.

The two following cases showed in addition to the amygdalitis also circumtonsillar inflammation:

CASE VII.—A man, twenty-five years of age, came with pain in the right tonsillar region of five days' duration, associated with constitutional disturbance. The right tonsil was much enlarged and reddened, with exudate in the crypts. The circumtonsillar region was reddened and slightly swollen. The right angular cervical lymph glands were enlarged. Cultures showed numerous colonies of *Streptococcus pyogenes.* Histologically, the tonsil showed numerous foci of suppuration within the follicles, some small, others discharging into the crypts. The efferent lymph channels contained a considerable number of multinuclear neutrophiles in addition to the lymphoid cells and multinuclear eosinophiles ordinarily found there.

CASE VIII.—A man, twenty-four years of age, came with pain and swelling in the tonsils of four days' duration, associated with constitutional disturbance. The circumtonsillar region on the left was reddened but not distinctly bulging. The left tonsil was markedly reddened and swollen, with a moderate amount of exudate in the crypts. In the centre of the exposed surface of the tonsil was a circular excavation about five millimetres in transverse diameter, with ragged, gray, necrotic-looking margins, containing much puriform fœtid material. The left cervical lymph glands were swollen. Histologically, the left tonsil showed marked proliferative changes, together with a number of intrafollicular abscesses. In the region corresponding to the macroscopic excavation was a collection of polynuclear neutrophiles, lymphoid and plasma cells, with much unrecognizable detritus extending from the free surface of the tonsil to its base, bordered laterally by the greatly swollen endothelioid cells of the reticulum. In the deeper portion of the tonsil, and communicating with the area just described, was a dense collection of multinuclear neutrophiles. The condition appears to be a deeply seated intratonsillar abscess of considerable size, discharging chiefly externally into the throat, but also to a certain extent into lymph spaces running to the base of the tonsil.

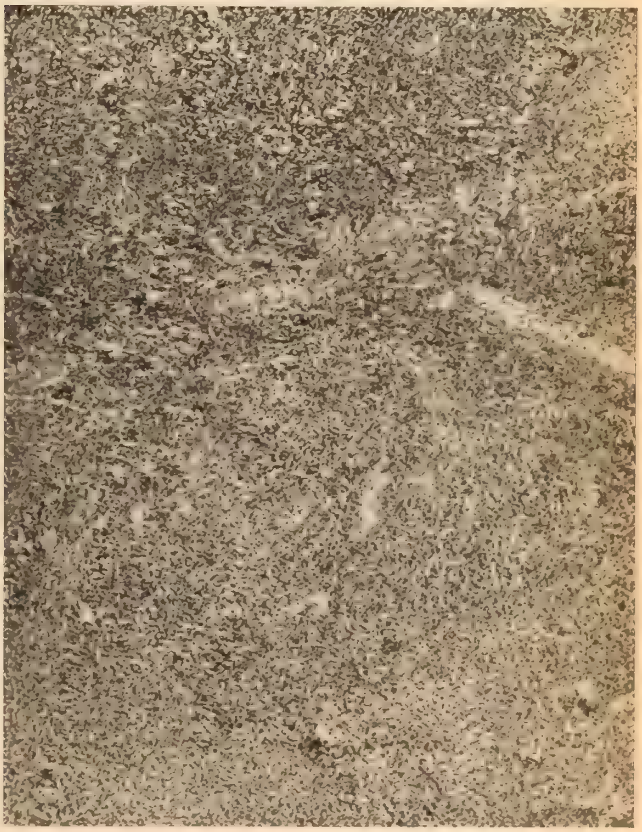

FIG. 3.—Another part of the same section as Fig. 2. In the lower left-hand corner of the figure is an intratonsillar abscess from which pus cells extend in direct continuity to the region depicted in Fig. 2 at the base of the tonsil.

The phenomena of these eight cases may be summarized thus:

I. In cases with numerous intrafollicular foci of suppuration the *Streptococcus pyogenes* was found to be more abundant than forms of staphylococci.

II. The intratonsillar abscesses were found in two cases *with* and in six cases *without* circumtonsillar inflammation.

III. The cases represented clinically a severe infection, as shown by the fever, constitutional disturbance, joint pains, and acute cervical lymphadenitis. They unquestionably showed as a whole more disturbance than was present in twenty cases of simple proliferative amygdalitis observed by the writer.

IV. The tonsils in most cases presented no clinical appearance that would enable one to determine the presence of the intrafollicular abscess. In a few cases subepithelial white spots were seen, which were conjectured to be abscesses situated immediately beneath the epithelium of the exposed surface.

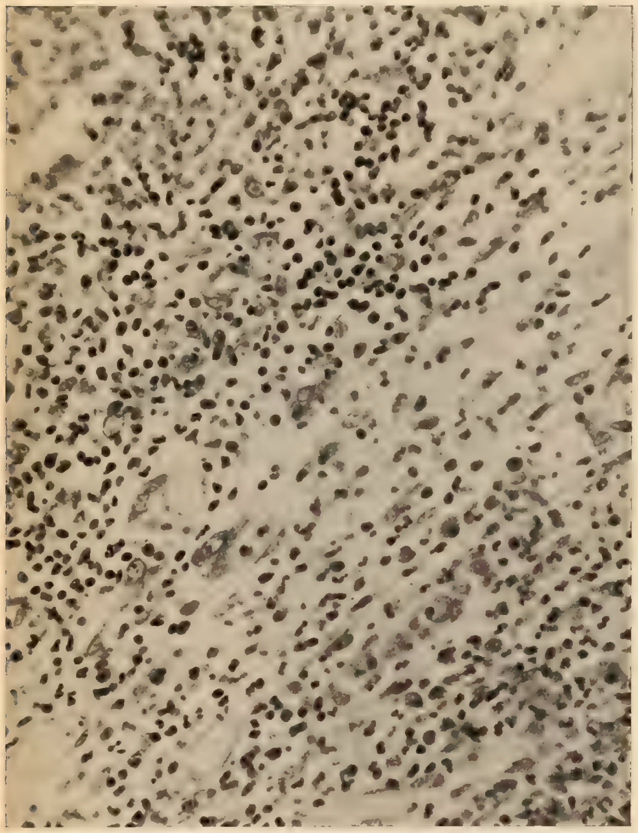

FIG. 4.—(Zeiss, apochromatic objective, eight millimetres. No. IV projection eyepiece.) A portion of Fig. 2, more highly magnified, showing the multinuclear neutrophiles in the lymph channels, which are lined by swollen and proliferating endothelium.

V. Histological phenomena:

1. The suppurative foci were few in some tonsils and numerous in others. They varied often in size in the same specimen, being in some follicles small and barely recognizable, in others occupying most of the interior of the follicle, while in still others the abscesses were seen to have already broken through the lymphoid ring and to have discharged their contents into the adjacent crypts.

2. The amount of fibrinous exudate in the crypts was more marked in these cases than generally exists in simple proliferative amygdalitis.

3. In the six cases not attended by circumtonsillar inflammation, the interfollicular lymph channels and connective-tissue spaces near the base of the tonsil contained few or no polynuclear neutrophiles. On the other hand, in the two cases accompanied by peritonsillar inflammation the connective-tissue spaces and adjoining reticulum were crowded with polynuclear neutrophiles, and in one of these cases these cells were seen to extend in direct continuity from an abscess situated in the interior of the tonsil toward the base of the organ.

The number of cases thus far observed is too small to justify definite conclusions regarding their ætiology or significance. Nevertheless, the following hypotheses suggest themselves as possessing a reasonable degree of probability:

I. The pyogenic infection of the follicles is probably secondary to a previous infection of the crypts by the *Streptococcus pyogenes*. This assumption is based upon the results of the cultures, upon the different age of the abscesses, as observed in the same tonsil, and also upon the fact that a marked proliferative inflammation may exist for several days and the tonsil show on excision only a few incipient abscesses. If the follicular infection were of embolic origin we should expect the abscesses to be more nearly alike in size and to antedate the proliferative inflammation.

II. In the two cases accompanied by circumtonsillar inflammation this complication may have been due to the discharge observed of an abscess into the efferent lymph channels.

My thanks are due to Dr. J. H. Wright, director of the laboratory of the Massachusetts General Hospital, where the histological portion of this work was done.

TONSILLAR AND CIRCUMTONSILLAR ABSCESS.*

By GEORGE A. LELAND, M. D.,

BOSTON.

IN the spring of 1893 it was my privilege to present a paper to one of the medical societies of Boston on Recurrent Tonsillitis,† in which was elucidated a method of reduction of the tonsils, and especially of the large (or small) lacunal (B. Fraenkel) variety, by the method of "discission," first suggested by Hoffmann, who performed the operation by means of a stiff probe. One of the cases there reported was of recurrent abscess, in which for many years the patient, a woman of thirty or thirty-five years, had suffered untold misery lasting over a period of weeks at every attack. After having reduced the tonsils by the above-mentioned operation to the normal size, at about the regular expected time, another attack occurred. A large crypt, evidently not previously reached, was involved and the tonsil was slightly enlarged in a circumscribed area. This crypt offered some resistance to the right-angled knife, but a small amount of pus was evacuated. Nine hours after a messenger appeared, saying that the old trouble seemed to be coming on. The incision was found but partly open, with a very little pus exuding, the whole region taking on more marked inflammatory action. The incision was enlarged, and with some persuasion the patient allowed me to introduce my finger into her mouth for the ostensible purpose of determining the extent and consistence of the swelling. The opening was found with the tip of the finger, which with some pressure made its way into a cavity as large as a filbert, whose walls were hard and resisting, like those of a small rubber ball. On withdrawing the finger, the opening was torn downward as much as possible and thus greatly enlarged, and the contents of the cavity thoroughly evacuated, much to the distress of the patient, it may be added.

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* Read before the American Laryngological Association at its twenty-first annual congress.

† *Boston Medical and Surgical Journal*, October 12 and 19, 1893.

Judging from her former experiences, she expected several weeks of dire illness, and insisted that she be visited on the following morning; when, instead of finding her in bed with saliva drooling from open mouth, muffled voice, and great constitutional disturbance, she was up and about, attending to her household duties as usual, having slept well during the night, and very comfortable. And she has not had another attack from that day to this—*i. e.*, since May 31, 1893.

The experience in this case has led me to use this instrument of Nature, the sterilized index finger, to make many clinical observations in cases of tonsillar or circumtonsillar suppuration, with observations which, in the absence of autopsies in such cases, where death does not often occur and where the lesions are in such a locality that careful dissection can not easily be made, not only appear to be interesting, but which may be turned to valuable account.

This method of digital exploration has thrown some light on the ætiology of this affection; it seems to show conclusively that circumtonsillar inflammation most frequently starts from within the tonsil, in one or more of the lacunæ, and is an extension of the suppurative process in the direction of the least resistance, as is the case with abscess formation in other localities. This conclusion I had arrived at some years ago, and am glad to see it confirmed by Moritz Schmidt in his edition of 1897,* lately come to hand, where he says that, according to his experience, it (peritonsillitis) arises almost only from tonsil plugs; that these take on suppuration from streptococcus infection, and that the products find their way outward into the peritonsillar tissue.

This process is further elucidated by Dr. G. Finder, of Berlin,* in his article Zur pathologische Anatomie der Tonsille, when he shows that by swelling of the epithelial lining of one or more of the crypts and by other changes the outlet may be closed, so that it may not be found even by microscopic examination; that then the contents of the crypt, consisting of epithelia, lymph corpuscles, mucus, and micro-organisms, go on increasing till the crypt becomes an encysted abscess. The disease first appears then as a tonsillar abscess, which may burst or be evacuated inward into the faucial space, or it may extend outward into the peritonsillar tissues.

In the case mentioned at the beginning of this paper, the extreme severity and long duration of the attack, extending through a period of many weeks, make it certain that from tonsillar it became circumtonsillar, and this course is described by A. Rosenberg.†

Formerly, and even now, exposure to cold, rheumatism, etc., were, and are, mentioned by most English-speaking writers as the principal cause of this disease, but since bacteriology has opened up its new fields and given new aspects to pathological processes the septic origin is recognized as the proper explanation and the former causes put down as simply reducing the resistance of the tissues.

Now, by the use of the finger tip after the tonsil has been split by the sickle knife, the enlarged and distended crypt can be frequently made out and the sinus followed upward and outward through the tonsil into the circumtonsillar cavity, which may be found either to be small above it or enlarged downward outside of the tonsil and even below it. And I have frequently been able to determine the exact size of the abscess cavity in this way; and in large ones to pass the tip of the finger down outside of the tonsil to its lowest limit; and then, in order to give proper exit for the pus at its lowest level, to complete the operation by tearing through the tonsil inward into the throat, thus passing the finger nearly around and through the organ. Of course, if the cavity has not begun to bag downward, such a large wound is not necessary, the exit being made only large enough to empty the abscess from the bottom. I have tried a blunt stiff probe for this purpose, but have not been so well pleased with it.

After having repeatedly punctured the velum palati, according to the universally recommended method, many times in the vain search for pus (in one case twelve times), much to my own embarrassment and the patient's discomfort, the success of this method in finding the pocket, be it small or large, has given me the greatest satisfaction. With it there is no danger of wounding the branch of the ascending pharyngeal artery in the anterior pillar of the fauces, the carotid lying outside of the abscess cavity not being within reach.* To be sure, this method is productive of a great deal of pain, though its addition to that already being suffered by the patient may not be great. And when desirable or demanded by the patient, a whiff of ether may be given, in the proper (Rose) position, to relaxation of the jaws (an important consideration), when the operation may be conducted without pain even before complete primary anæsthesia has been attained.

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* *Die Krankheiten der oberen Luftwege*, p. 289.

* Fraenkel's *Archiv für Laryngologie und Rhinologie*, Band viii, Heft 2, p. 354.

† *Die Krankheiten der Mundhöhle, des Rachens und des Kehlkopfes*, Berlin, 1893. p. 105.

Another advantage may be alleged for this method —viz., that it drains the abscess from the bottom. The usually advocated method of opening at the place of pointing, even though the incision be enlarged by the probe, as advocated by Bosworth and others, or by the finger, as mentioned by Stoerk (which Max Thorner says is certainly a very painful procedure †), must frequently, if not always, open the cavity at or near the top. This operation may sometimes leave an objectionable scar, but especially does it leave problematical the complete granulation of the cavity from the bottom, which may be an ætiological factor in the recurrence of this distressing affection. In the cases operated upon which I have been able to follow there has been no recurrence, and though their number is too small for definite conclusions, and the time since operation too short, still it is a satisfaction that with some the usual period has elapsed without an attack.

Another advantage possessed by this method is the very quick recovery. True, the evacuation of pus is the turning point in almost every case by whatever method; but, as a rule, the patients thus operated upon are able to swallow liquids in six hours and solids in twelve, and some of them have been well enough to be discharged from the hospital the next day. This saving of time is of much value to those in all walks of life where time is of importance, not to mention the suffering entailed on waiting for several days or even weeks for the abscess to burst, when numerous and frequent proddings have failed to locate pus.

A newsboy, sixteen or eighteen years of age, came to the clinic last fall presenting the unmistakable facies and attitude of a sufferer from this disease. He was a Hebrew from the White Czar's dominions, and so prone to make a great disturbance. The tonsil was quickly split under illumination, and the patient placed in a firm chair. One assistant was stationed at each extremity to be ready to hold it firmly, and one behind to get on to his shoulders and hold him in the chair. I then got his head in chancery, and, the mouth being held open with a gag, the finger was made to thoroughly traverse the course of the suppuration and was then torn out through the tonsil. Considerable pus and blood were evacuated. After gargling freely with hot water, he left the clinic expressing himself as much more comfortable.

The second morning after I met a lively boy on the street corner, unrecognizable as the patient of two days before. He came up and said, "Good morning, doctor. Throat all right to-day. Have a paper?"

A student, G. T. S., twenty-three years of age, came to my office on November 10, 1897, with the unmistakable attitude of faucial phlegmon, this being the sixth attack since he was fourteen years old. The previous March an attack involved both tonsils, each lasting a week. Both tonsils were found enlarged, the left, the seat of the greatest swelling, with pus bathing the inner surface and exuding from the lacunæ. The attack began three days before; the patient was much reduced, and the jaws could be but very slightly separated. Hence the left knife was used to enter the tonsil, and the right knife to enter this incision and to cut upward into the substance of the velum between the pillars, where it seemed to enter a cavity, from which and from the tonsil a moderate amount of pus was evacuated. Instead of waiting two or three days for the subsidence of some of the swelling, as advised, he appeared the next day to have it thoroughly opened up. The tonsil was then split from top to bottom, and the left index finger introduced into the incision passed upward and outward into a large cavity which extended downward outside of the tonsil, seemingly below its inferior boundary. The finger was then twisted inward through the substance of the tonsil into the throat and all the tissues torn through down to the bottom of the cavity. Hæmorrhage was quite copious, perhaps two or three ounces, and from four to six drachms of pus evacuated.

The patient expressed himself as much pleased that for once the abscess had been thoroughly opened, saying that it never had been before, though it had often been punctured; and although it was somewhat severe at the moment, that he felt immediate relief and could open the mouth much wider than before.

On the fourth day after he again appeared, the change in his appearance being most marked, and said that he had never had such a quick recovery. The other tonsil had also subsided. On the ninth day after the operation the cavity was nearly obliterated, it having been treated by application of equal parts of tincture of iodine and glycerin. Sometimes this after-treatment is of service to insure healing from the bottom, the application being made with a stiff cotton-wound probe well into the bottom of the wound.

A gentleman of forty-five (?) years of age, in a hotel near my office, had an alveolar abscess from a dead tooth. His dentist, in treating it, found also antrum disease. During a course of syringing of the antrum by the dentist a circumtonsillar abscess developed. After a week or ten days of extreme suffering from pain, starvation, and insomnia, till he was a perfect wreck, I was called. The faucial space was nearly obliterated by the swelling of a right-sided peritonsillar abscess. The jaws could scarcely be separated. Under illumination the sickle knife evacuated through the tonsil a large quantity of fœtid pus. The finger was then introduced, and the cavity extending far outside of the tonsil was torn through from the bottom. He slept considerably that night, went out to get a shave the next day, and rapidly recovered; and a month afterward the parts had healed so that there was no sign of the disease or operation; and it sometimes seems strange how so much destruction can be so completely repaired.

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* Moritz Schmidt. *Op. cit.*, page 291.

† Article on Acute Pharyngitis, Burnett's *System*, vol. ii, p. 264.

Sometimes, after passing through the tonsil, the finger brings up against a tensely filled cavity, which it is impossible to enter; this, however, may often be opened in the same way the next day or so, or the probe point of the knife can be forced through by pressing it upward and outward. This starts the pus, which makes subsequent procedure easy, and the pus may be reached before the extreme swelling usually seen is attained. One case of fatal termination should be mentioned in this connection:

Five or six years ago I was called in consultation to a case of this nature of extremely aggravated type in a large, strong Irishman, who had suffered about a week. With his attending physician's help he was etherized, the tonsil split, and the finger introduced. It was impossible to break through the abscess wall. He was much more comfortable afterward, probably from the depletion and reduction of the tonsillar swelling. Against orders, he was removed from his boarding house to a suburb, out of our reach. The next night, twenty-four hours after our operation, he retired, expressing himself as very comfortable and thankful for what had been done. About an hour afterward a relation entered his chamber and found him breathing heavily. Five physicians were summoned: death ensued before they arrived. There was no autopsy. I am perfectly confident, in the light of subsequent cases, that the sac could have been entered the morning after we saw him.

In a series of cases at the hospital treated by this method, the house officer, Dr. Fitzgerald, finds that if opened at the start they were discharged as "well" on the following day, and that other cases averaged two days; while in those cases treated by the old method on other services, four opened spontaneously, and one case is mentioned where, after prodding by the old method, it yet opened spontaneously—all after days of tedious and painful waiting.

It is not asserted for this method that it is new or original, for one of our older surgeons, Dr. W. P. Bolles, told one of my volunteer assistants that the surgeons of fifty years ago always used to open circumtonsillar abscesses with the finger, in all likelihood not through the tonsil, however; but it is maintained that it is thorough, that it can be made painless under slight general anæsthesia, that the opening is made through diseased tissue, that the pus tract and cavity can be found earlier than by the old methods, and that thus much time and suffering are saved.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, September 30th, Dr. H. C. Fairbrother reported a case of syphilitic meningitis, and Dr. John Young Brown presented specimens illustrating some points in the pathology of appendicitis.

THE AMŒBA CILIATA IN DISEASE.*

By HENRY GEREON GRAHAM, M. D.,
CHICAGO.

(Concluded from page 482.)

We have seen in the experiment with the infusion of potato, which had become strongly alkaline, that the ovules kept indefinitely. Such ovules are not affected by a saturated solution of potassium hydrate, but are broken up into minute lustrous bodies by chemically pure sulphuric acid.

On being taken into the mouth in drinking water, most of the amœbæ, of course, pass out again with the excreta, but it is possible, from their constant presence in water, that some few may be at all times present in the tissues even in health.

Once in the mouth, the structures the amœba might successively enter are the ducts of Rivini, Wharton's duct, and Stenson's duct, the ducts of the serous glands at the base of the tongue, and the orifices leading to the follicles in the substance of the tonsil. Their transitory passage through the mouth renders it improbable that they should enter any of these, though possibly they may do so. The same is true of the Eustachian tube, which water ordinarily does not reach, but here, too, there are probably exceptions. Thus, in the case of a little girl who had had an attack of dysentery, suppuration of one middle ear immediately followed and was attributed to the general infection.

After the Eustachian tube, the next large orifice to be encountered would be the larynx, and, as the ovules are sometimes found in the muco-pus coming from the larger bronchial tubes, it is possible they may enter here. The next large orifice would be that leading to the ductus communis choledochus. It is possible that this organism may find its way into the canal of Wirsung, but it is almost certain that it frequently enters the hepatic and cystic ducts, especially the former. Then come the solitary glands and Peyer's patches, which are the gateway for the entrance of the typhoid bacillus. We should also expect the appendix vermiformis to be a favorite resort for the amœbæ.

In order to ascertain whether or not an organism measuring on an average about ten to twenty-five micromillimetres in diameter may enter one of these glands, it is necessary to look into their structure. Gray says: "They (the solitary glands) are now recognized as lymph follicles," and that they are "closely packed with lymph corpuscles." From Landois and Sterling: "They (the solitary glands) consist of small masses of adenoid tissue loaded with leucocytes. . . . Peyer's glands, or agminated glands, consist of groups of lymph follicles like the foregoing. . . . The masses are often more or less fused together, their bases lie in the submucosa, while their summits project into the mucosa, where they are covered merely by the columnar epithelium of the intestine. The lymph corpuscles often pass between the epithelial cells." That is sufficient for our purpose. An amœba can pass through a narrower channel than that through which a leucocyte can pass. While amœbæ are often larger than a leucocyte, most of them, as they are found in hydrant water, are smaller, and the cilia would enable an amœba to escape where a leucocyte of the same size would be held fast. Their great penetrative power would probably enable the largest amœba under favorable conditions to enter the solitary glands and Peyer's patches. Once inside, the same thing would happen that always happens when numbers of them are found within an inclosure. The ectosarc of the more fragile would burst, setting the contents free, the hardier individuals passing on with the lymph current. This would leave large numbers of typhoid bacilli free within the solitary glands and Peyer's patches. Repeated experiments have shown that when this bacillus is injected beneath the skin or into the peritoneal cavity of animals, inflammation results, an abscess forms, and suppuration is followed by an ulcer. This is exactly what occurs in the solitary and agminated glands in typhoid fever. But in the one case the bacilli are transferred from a culture medium into tissue where the surroundings are unfavorable, while in the other the bacilli pass directly from the fluid of one host into the fluid of another host, in both of which they have repeatedly been found alive. From the solitary and agminated glands they are quickly disseminated throughout the lymphatic and vascular systems, thus making the infection very speedily general.

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* In the first part of Dr. Graham's article, published last week, the word *ciliaria* was erroneously printed instead of *ciliata*. These further errors are to be noted: Page 478, second column, twenty-second line from the foot, for "proboscis" read filament; page 480, second column, seventeenth line from the foot, for "backed" read racked; page 481, second column, ninth line from the foot, omit "almost."

From a comparison it is seen that we could no more expect to nourish a patient by injecting a little gruel beneath the skin than we could hope to produce a general infection from the typhoid bacillus by the same methods.

The amœbæ once within the solitary glands have no difficulty in reaching the entire lymphatic system, for "the interspaces of the retiform tissue are continuous with larger lymph spaces at the base of the gland through which they communicate with the lacteal system." (Gray.) That this is the principal source from which they are disseminated is shown by the early infection of the mesenteric glands. "It penetrates at first into the follicles and Peyer's patches, and thence goes on into the mesenteric glands, the blood current, the spleen, and other organs." (Strümpell.)

The susceptibility of the ectosarc of the amœba to mechanical pressure, varying as it does from one extreme, where it is burst by the dropping of a cover slip upon it, to the opposite extreme, where it can not be ruptured by pressing it between a slide and cover slip, would seem to indicate that while perhaps most are ruptured external to the alimentary canal, near the point of exit from it, some may reach the integument, and that others are ruptured at intermediate distances.

It is probable that a few may reach the skin, and, being unable to pass through it, as they were unable to pass through the external integument of the larva, rupture here, setting free the bacilli, which produce a local inflammation resulting in a circumscribed inflammatory area. Ovules of the amœba and bacilli have been found in the same rose spot. It is therefore more than possible that a few individuals that have succeeded in penetrating the corium to a greater depth than the others may be the cause of the rose spots seen in typhoid fever. When the ectosarc bursts and the bacilli are set free, the latter would naturally be found in a body. "They are found for the most part lying together in little clumps—foci of bacilli—in the organs." (Strümpell.) "The bacilli are not uniformly distributed, but usually lie in clumps in the tissue." (Ziegler.)

At the point where the ectosarc bursts we would also expect to find large numbers of ovules. "In the first of these localities, solitary and agminated follicles, they—the typhoid bacilli or their spores—cause an inflammatory infiltration of the mucosa and submucosa that is extraordinarily rich in cells." (Ziegler.)

"There is a great increase and accumulation of cells of the lymph tissue" in Peyer's patches and in the solitary glands. "The cells have all the characters of ordinary lymph corpuscles. Some of them, however, are larger, epithelioid, and contain several nuclei." (Osler.)

The first is a good description of the ovules of the amœba, the second of the amœba itself in its resting stage.

Why most individuals escape infection and the few are attacked is not more difficult to explain than why one larva should be attacked and the many go free in a medium teeming with amœbæ; or why one microcodon in a thousand should meet its death in so extraordinary a manner and the others escape, although the same danger constantly threatened.

In this case of typhoid fever, a drop of blood removed from the ear was placed in sterilized hay infusion. In this there developed large numbers of the amœbæ. In a control experiment, with the same hay infusion, no amœbæ developed.

Malaria.—In a number of cases where men employed on the drainage canal contracted malaria, ovules of the amœba were found in the blood. Here two kinds of amœbæ were usually to be found. In what appeared the less important variety, the ovule was large, circular, with dotted lines radiating from the centre, and other similar lines in the form of concentric circles intersecting the first series of lines. As differentiation progressed, the individual embryos could be made out, the two series of lines forming the lines of cleavage. As the agglutinating substance which held the mass intact disappeared the embryos were set free, and could not then be distinguished from monococci, save that some of the latter are more active. These embryos were found inside the red blood-corpuscles and free in the blood current. Their color was similar to that of the red blood-corpuscles, from which it was probably derived. However, similar monads found in hydrant water often present this same red appearance.

The other organism, and apparently the more important of the two, found in these cases, was the *Amœba ciliata.* This organism carried with it the monococcus as a parasite. These monococci were very actively motile, and, while some of them were found inside the red blood-corpuscles, most of them were free in the blood plasma. The cocci multiplied within their host, for numerous diplococci, some of them exceedingly active, were to be seen. On entering the corpuscle they pass direct to the centre, leaving in their wake a track free from the coloring matter of the corpuscle, so that when two or more enter, it can be seen what part of the corpuscle each has traversed. Usually all will be found at or near the centre, where they remain until the corpuscle is broken up.

These micrococci are probably the same that can, by successive cultivation on proper media—*e. g.*, the lymphatic and vascular fluids—be made so virulent as to produce septicæmia. This would be suggested by:

(*a*) These cocci are facultative anaerobes, having subsisted for over seven months shut in from air and light, many individuals at the end of that time being as active as ever.

(*b*) They may form short chains in imitation of the streptococcus.

(*c*) Most of them, when growing as anaerobes, form circular groups in imitation of the staphylococcus.

(*d*) The culture medium has a marked influence upon the morphology of these water organisms. The same is probably true of the degree of virulence of the pathogenic forms.

(*e*) Cases of severe malarial infection present some symptoms common to both malaria and septicæmia—mixed infection. It is possible that the principal difference between malaria and septicæmia is that the monococcus grown in the amœba is not nearly so virulent as the same micro-organism grown in human blood. It is probable that the amœba is in itself a comparatively benign organism, but that it owes its importance as a morbific agent to the parasite it carries.

(*f*) Organisms that in hydrant water are actively motile are, as a rule, when found in the blood, less so or non-motile. In this respect they often resemble the same organism as it is seen in very cold or in hot water.

(*g*) This coccus being constantly present in water, it follows that so small an organism is constant in the urine, for the frustules of various diatoms, organisms many times larger than this coccus, are frequently present in the urine. It multiplies very rapidly if the urine, after being voided, has access to air. But we have seen, too, in the above-mentioned experiment that it multiplies very rapidly if it does not have access to air. This coccus is probably identical with the *Micrococcus ureœ*, the larger size of the latter being due to the peculiar properties of the culture medium.

Chronic Hypertrophic Rhinitis.—If the nasal mucous membrane is copiously irrigated with an irritating solution, so as to bring away large numbers of epithelial cells, among the latter will be found embryonic forms of the amœba. It is probable they are in some degree responsible for the hypertrophy. This condition is often a sequence to malarial infection.

Dropsy.—In a little boy who died at the age of seven from a general dropsy, in ascitic fluid removed an hour before death were found some ovules of this amœba.

Pneumonia.—If a small circumscribed abscess forms under the mucous membrane of the cheek or lip as the result of a cold, the pus from it usually contains a diplococcus. As the result of an insignificant trauma or of a cold, there is a slight abrasion or fissure in the mucous membrane. From what we now know of its great penetrative power, it is probable that an amœba enters, and at some distance from the surface the ectosarc bursts, setting the micrococci free. They have found a new and more favorable environment, begin to multiply rapidly, and form diplococci. They are exceedingly active and are not long in setting up a focus of suppuration. These diplococci appear very like Fränkel's pneumococcus minus the capsule. How does the pneumococcus obtain its capsule? We have seen how in all probability the typhoid bacillus develops the capsule that makes it so highly refractive by long residence as a parasite within its host. The probability is that Fränkel's pneumococcus obtains its capsule in the same way. It is well known that in ordinary culture media it is without a capsule. When two or more of these diplococci without the capsule are united they look exactly like the short chains formed by the diplococci grown as anaerobes and which have been referred to above. This capsule is not found in all cases of pneumonia, and when found is probably seen in diplococci that have not long been set free by their former host. It is scarcely necessary to repeat that the monococcus or diplococcus, which probably becomes the pneumococcus, is a frequent parasite of the *Amœba ciliata.*

Staphylococci and streptococci are often present in pneumonia, and are frequently the cause of death in cases that result fatally. It is not difficult to account for their presence later on in the attack if the pneumococcus has but to lose its capsule to become the staphylococcus or the streptococcus.

It is not surprising that a number of germs have at various times been brought forward as the specific cause of pneumonia, seeing that the parasites in a large number of amœbæ are often protean in their morphology. Thus the bacillus of Friedländer and of Frobenius was at one time believed to be the exciting cause. This bacillus "has also been found in the nasal secretion and in inflammations of the middle ear." (Ziegler.) It is probable that the amœbæ must not only invade the pulmonary tissues, but that they must reach them in sufficient force in order to set up a true pneumonia. Where a few reach the middle ear, circumscribed, local inflammation follows; had they passed on to the appendix vermiformis, there would have been an appendicitis.

In a typical case of pneumonia that occurred in the winter of 1897 and 1898, during convalescence an abscess formed on the plantar surface of the foot—metastatic abscess. In the pus that escaped through an incision was found the pneumococcus of Fränkel.

In a recent case of pneumonia, the amœba was found in the urine.

Malignant Œdema.—In a case of malignant œdema, the amœba was found in the blood and in the urine. The parasite was probably the bacillus of malignant œdema and formed spores. Only once were these spores seen when every bacillus seemed to contain one. The spore was not in the centre, but in the end of the bacillus, and was stained red, the bacillus blue.

Purpura Hæmorrhagica.—The finest specimens of the amœba seen in any disease were found in the urine in a case of purpura hæmorrhagica. This was really almost pure blood, and the quantity, together with the concentration of what amœbæ it contained into a few drops, probably accounts for the large number seen. But they were at the same time larger than the average amœba as it is seen in the fluids of the body. A saturated solution of potassium hydrate was used to destroy the ectosarc. This was also used as a means of differentiation to distinguish amœba from leucocyte. The amœbæ possessed a distinct capsule, elliptical in form, and would burst on coming in contact with the potassium hydrate solution and disappear, leaving the contents to be dispersed. The leucocyte was irregularly rounded, composed of a stroma inclosing irregular spaces, and after it had been in contact with the same solution for some time, would suddenly and evenly expand, expel a portion of its contents, and as suddenly again resume its former dimensions, the stroma remaining intact.

When the ectosarc of an amœba was destroyed, a mass of bacilli large enough to have almost filled the ectosarc, and held together by an agglutinating substance, was exposed. There was a constant, rapid, vibratory motion of the entire mass of bacilli, such as is sometimes seen within amœbæ found in hydrant water. The bacilli were held in such a compact body that individual movement was impossible save at one end of the mass where the agglutinating substance was deficient. When there was a cleavage of the mass resulting in its division into two or more parts, each part would continue the same vibratory motion. These bacilli contained no spores. While some of the amœbæ contained a bundle of bacilli, in many there were only a few. Some of these contained spores and were stained—the spores red, the bacilli blue. This last was the same bacillus as that found in the case of malignant œdema.

Many bacilli were floating free in the urine, or blood and urine, and these masses of bacilli in their grouping presented the appearance characteristic of the *Bacillus proteus vulgaris.* They contained no spores.

This same amœba and bacillus were found in the vomited matter which was tinged with blood. In some drops of blood removed through a puncture in the skin, ovules of the amœba and bacilli were found. The integument was covered with minute hæmorrhagic spots. These were evidently produced in much the same way as the rose spots in typhoid fever, there being probably this difference: That in typhoid fever the parasite is the typhoid bacillus, and in purpura it is the *Bacillus proteus vulgaris.*

The great prostration, the high range of temperature, which at one time reached 105° F., the great loss of blood with which the urine, fæces, and vomited matter were tinged, and the multiple hæmorrhagic lesions in the skin, were all indicative of the intensity of the infection. Yet shortly after the appearance of the hæmorrhagic spots convalescence set in, and in the course of a week was almost complete. This would be anticipated where the infection is due to some benign organism, such as the *Bacillus proteus vulgaris*, which some hold is never pathogenic.

If set free in large numbers in the blood, there is abundant evidence to show that this organism would for a short time, at least, produce considerable prostration.

In this case the question arises, Is the large mass of bacilli held in so compact a body, that is so large as to almost fill the ectosarc of the amœba, merely a bundle of parasites, or are they a part in the cycle of existence of the amœba itself, just as a member of the family *Ranidæ* is a tadpole before it is a frog?

In hydrant water there is sometimes found such a dense, compact mass of seething, writhing, wriggling bacilli that the wonder is how it is possible they should be so bunched, and at a short distance away not a single bacillus be found. A compact body of bacilli, presenting much the same appearance and possessing a similar movement, is sometimes seen within the bodies of amœbæ found in hydrant water. Possibly this bacillus is a form representing a stage in the development of the amœba itself, a part in its cycle of existence.

An almost parallel case would be that of an organism mentioned by Catlow that is found in the marshes along a portion of the coast of Norway. Such an hypothesis would account for the presence of the bacilli in the specimen above referred to. These bacilli, it should be added, were quite lustrous.

If it is true that a monad—spore of an amœba—may become a bacillus and the bacillus an amœba, it would follow that for every specific disease there would have to be a specific amœba, where an amœba is the direct or indirect cause of such disease.

Dysentery.—In a case of dysentery, an elongated amœba, with a flagellum at either extremity, was found in the stools. This is the form of the *Amœba ciliata* which immediately precedes that of the perfect organism and corresponds to the chrysalis of an insect. With the amœba were found bacilli and spirilli in abundance. No doubt many of these were carried into the alimentary canal by the amœbæ.

Lambl, as long ago as 1859, recognized this organism as being a principal cause of dysentery. Since then his findings have been confirmed by Lösch, Kartulis, Musser, and others. Its relation to dysentery is now well recognized. It probably owes its importance here as a morbific agent more to the germs it carries with it than to any pathogenic properties possessed by itself.

Osler is here quoted to show that it is not confined to the intestinal tract: "In 1890 I reported a case of dysentery with abscess of the liver, originating in Panama, in which the amœbæ were found in the stools and in the pus from the abscess. . . . The lesions are found in the large intestine, sometimes in the lower portion of the ileum. Abscess of the liver is a common sequence. Perforation into the right lung is not infrequent." (Osler's *Practice*, 1899.)

When diarrhœa occurs in typhoid fever, it is probably owing to numerous amœbæ with their parasites, some of which are probably spirilli, that chance to remain in the alimentary canal. When no diarrhœa is present, it is probably because all amœbæ have left the alimentary canal. In the small larva, of the score or more of amœbæ present, not one had remained within the alimentary tract.

The Widal Test.—When typhoid bacilli are brought in contact with serum from a patient suffering from typhoid fever, the bacilli form agglutinated masses. Here the very same thing happens to the typhoid bacilli that happened to the bacilli found within the amœbæ in the case of purpura. The inference is that the agglutination is caused by some substance within the ectosarc of the amœba. This is probably the fluid contents of the ectosarc—the fluid portion of the endosarc. After the death of the amœba, the ectosarc disappears, the fluid escapes, and probably undergoes a change similar to that which takes place in protoplasm when it dies. Under this changed condition, we should expect this agglutinating power to be increased.

The amount of such fluid in the blood of a typhoid-fever patient is probably considerable. If it were in proportion to that found in the larva it would be very large, and in the case of the microcodon it was almost equal to the mass of the host.

Some would find its way into the blood with the bursting of the ectosarc of the first amœba. This would continue until it would reach its maximum, which would probably be when the first rose spots appear, for this would indicate that some of the most resistant had succumbed. We should expect the test to be at its best about this time or a little later. So, too, blood procured in the evening, when the temperature is higher and when more fluid is set free, would probably possess this agglutinating power to a greater degree than that procured in the morning. Finally, if this is the cause of the agglutination, the same phenomena should be witnessed with blood obtained from persons suffering from other acute diseases in which the amœba is found in large numbers.

Résumé.—From what is now known of this organism, the following may be formulated: 1. The type of disease which the *Amœba ciliata* will produce is determined by:

(*a*) The kind of parasite it carries.

(*b*) The tissue or organ it invades.

(*c*) Its distribution over a large, or concentration in a small area.

(*a*) If the parasite is the typhoid bacillus, there is typhoid fever; if the *Bacillus proteus vulgaris*, purpura hæmorrhagica; if a certain spirillum, dysentery; if the pneumococcus of Fränkel, pneumonia, etc.

(*b*) The position often assumed, that for each region or tissue of the body affected, with accompanying distinctive symptoms there is a specific infecting organism, is probably untenable. In pneumonia, for instance, the type of disease is determined by the fact that the pulmonary tissues are invaded. Had there been an invasion of some other tissue or organ by the same organism, carrying the same parasite, the type of disease would have been determined by the tissue or organ invaded—*e. g.*, abscess of the middle ear or of the liver, appendicitis, meningitis, etc.

(*c*) The infection produced by the amœba is mild or severe, according as they are diffused throughout the entire system or concentrated in a small area. Herein lies the chief danger from an invasion by these organisms, for it is their habit to often move in "schools," very much as an invading army enters the enemy's country—in a body. Where there is even distribution throughout the system by means of the lymph and blood currents, without concentration at any one point, there results malaria or malignant œdema, according to the parasite carried. With concentration, for instance, in the pulmonary tissues, there would result pneumonia. Pneumonia, it will be remembered, has been produced in the lower animals by injecting into the pulmonary tissues inert substances. Here the foreign body acted as an irritant, resulting in obstruction of the lung, principally by the animal's own tissues.

2. The *Amœba ciliata* is probably in itself of little or no pathological significance.

3. Its importance as a morbific agent is due to:

(*a*) The protection afforded its contents from the action of destructive agents, whether mechanical, chemical, or thermal.

(*b*) Its power to penetrate tissues and organs distant from the alimentary canal and that passive agents can not reach.

Its penetrative powers are seen to best advantage in the study of the *Amœba ciliata* in its relations to other higher water organisms in which the tissues of both host and parasite, or invader, are transparent.

4. Where there is an invasion of a vital organ, resulting in interference with its normal function, the disease becomes very much complicated. To the poison from without is added the poison generated within, which would have been thrown off but for such interference.

Bouchard has estimated that in two days four hours a healthy man will excrete by the kidneys alone sufficient poison to have killed him but for its elimination. The amœba and its products are excreted principally by the kidneys.

5. Some of the white corpuscles in the blood, and some of the pus corpuscles in the urine, in a number of acute infectious diseases, and in some subacute diseases, are often nothing more nor less than the ovules of this same amœba.

In this connection it is pertinent to suggest that a probable function of the spleen is the arrest and destruction of embryonic forms of the innumerable minute organisms with which all natural fresh waters abound.

Subsequent investigation will probably discover slight errors, but will no doubt confirm in the main what has been here foreshadowed.

264 SOUTH HALSTED STREET.

PURPURA RHEUMATICA.

REMARKS. TWO CASES IN THE EXTREMES OF LIFE.

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THE ætiology of purpura (in general) is not at all determined; the pathology is not yet clear. Writers are agreed that hæmorrhages may be due to rhexis in some cases, in others to diapedesis. Many have recorded their failures in determining lesions in the walls of the blood-vessels. Unna and Sack, however, by certain methods of examination have found ruptures of the walls of the veins.

Babes has found hyaline, Wilson Stewart and Fox lardaceous, degeneration of the walls of the blood-vessels in purpuric conditions; but Unna maintains that these degenerative changes would tend to restrain rather than to further hæmorrhages. Amyloid degeneration and desquamative endarteritis have been reported.

Recently micro-organisms have been sought in the blood, its vessels, and other tissues, with results not uniform. Even when found, the bacteria can not be charged with being the cause.

The toxines they produce are credited, and probably rightly, with producing such changes in either the walls of the vessels or in the blood as to favor rupture in the one case or diapedesis in the other.

The *mechanical* causes are many. For instance, where there is local obstruction or great cardiac weakness purpuric extravasations are not uncommon. Witness the occasional purpuric spots from tight garters or from varicosities. The purpura of the senile—in which there are no other symptoms—is considered by one writer as in a sense mechanical, but yet dependent upon changes in the vascular walls, these changes being due to a long-existing toxic disturbance. That is to say, were it not for these changes, the senile heart, the retarded venous current, would not of themselves produce the purpura.

Lack of support of the elastic tissue of the skin, as found in the marasmic infant or the victim of a wasting disease, is a factor seemingly supported by Unna's observation that these ruptures are found at the point of least resistance—namely, at the junction of the superficial part of the subcutaneous tissue with the lower part of the cutis. That nervous influences share not a minor part is evident.

In the *Lancet*, March 17, 1888, we find mention of a case of purpura hæmorrhagica twice occurring from mental shock in a subject who had never before manifested such a tendency, and Dr. De Smet, of Brussels, whose case it was, reports other skin diseases following mental shock. Dr. Weir Mitchell has reported purpura occurring at the site of neuralgias; and Strauss, cases having extravasations in the course of tabetic lightning pains. Long prior to these observations were those occurring in the fanatic and ecstatic of purpuric spots in areas corresponding to such points as those where the hands and feet of our Lord were nailed.

Toxic influences are many. The toxines of bacteria giving rise to degenerative changes have already been mentioned; but we must remember, too, the probability of changes in the tissues adjacent to the blood-vessels.

Scarlet fever, cerebro-spinal (*spotted*) fever, and other infective diseases sometimes have purpuric tendencies and manifestations. Organic matter, as bile and urinary constituents; certain drugs, notably iodine preparations; snake venom and other poisons, have all been credited with causing purpura. Injection of sodium chloride into a vessel or the subcutaneous tissue of a frog, as done by Prussak, was followed by an observable diapedesis of colored corpuscles seen under the microscope to be passing through the intact wall of the vessels. This observation was confirmed by Wickham Legg.

That changes in the constituents of the blood have a part in the causation of the purpuric diseases can not be doubted. Scurvy furnishes an example. *The lack* *of some constituent, and this thought to be a fibrin-forming element, is believed to be a frequent cause.*

The evidence is good that there exists a specific purpuric disease, since epidemics have been reported as well as instances of contagion. Thus Taylor, in the *Twentieth Century Practice*, cites a case of a pig afflicted with "Irish purpura." The servant of the owner of the pig soon thereafter contracted the disease and was ill three weeks. The owner, too, contracted it, and the cowman died of it.

To recapitulate briefly, we may have purpura of any type from causes—

1. Mechanical, including nervous, from vasomotor derangements causing changes in blood pressure, etc.
2. Toxic in general, as drugs, toxines, and organic matter.
3. Purpuric disease, specific and communicable.

Of the different forms all are familiar. The following cases we believe would doubtless come under the head of purpura rheumatica:

Case I.—James A., aged six months, had fever for two or three days prior to our observations, April 17, 1899. Had laryngitis two weeks ago. Has not been vaccinated (small-pox scare). The papillary rash present comes and goes; is most marked during fever. Temperature now 103.2° F. Examination discloses in addition to papules, petechiæ suggestive of a probable hæmorrhagic exanthem.

April 18, 1899.—Mother reports persistence of petechiæ, some turning black. Called and found child free from fever, having a marked systolic murmur over mitral area, and the changes apparent quickly suggested purpura.

19th.—Temperature, 102° F.; rash now decidedly purpuric.

24th.—Dr. Zahorsky notes the following: "Miliaria on neck, chest, and arms; very small millet-seed vesicles, with slight areola. Sweats a great deal. Left knee swollen and painful, but not as much as yesterday; loud systolic murmur. Baby apparently quite well."

May 1st (writer's notes).—Left knee swollen, with marked flexion of left leg. Purpuric color changes evident. Miliaria (probably drug-born) disappearing.

16th.—Been free from swelling since May 3d, but again began this morning.

This child completely recovered, but systolic murmur remained. This, so far as we know, may have been congenital.

Salicylates were tried and quinine, but found of no value. Antipyrine in grain doses four times daily reduced the fever and calmed the child. Ichthyol and bandaging for knee. No plasmodia were found in the blood, and the character of the sweats did not suggest rheumatism pure and simple.

Case II.—Mrs. McL., aged fifty-five years. On April 26, 1899, a wardrobe top fell, striking her on her head, shocking her greatly, but apparently not injuring her otherwise.

From this time until some time early in May she complained of weakness under her shoulder bladés. At this time she found spots about the ankles and feet. She had "chilly sensations and mild fever" about four to seven in the afternoon of each day; loss of appetite and vertigo. Tonic pill. Next visit, June 11th, she reported large wheals appearing about her joints, soon followed by swelling of the joints with much pain. Feet and ankles now œdematous. Chemical examination of urine negative. Subsequent history: The joint swellings would fairly quickly recede upon immersing them in hot water. The eruption covered all the extremities, and was very severe, consisting of petechiæ, vibices, and ecchymoses. When lying down, her back would present thousands of petechiæ.

About the ankles the skin broke, and we had several ulcers to contend with. Complete rest would in a few days cause a marked diminution of the hæmorrhages except on the back and buttocks, but on assuming the erect position she would at once be covered (her lower extremities particularly) with myriads of petechiæ. Upon rising after bandaging the legs and thighs she suffered from dyspnœa and cardiac uneasiness, but the bandaging restrained the hæmorrhages over the bandaged areas. Salicylates, ergot, dilute sulphuric acid, and diuretics when indicated, gave no results whatever except improvement in appetite and feelings due to tonics, as quinine, strychnine, and iron.

It was then, after more than two months, that we determined to try a calcium salt on certain theoretical principles (not then knowing that calicum chloride had been recommended), and concluded to resort to the glycerinophosphate because of its repute as a nerve tonic, indicated in this case, since it was thought the shock mentioned had played an important part. Within a week after giving four grains of Merck's salt three times daily our patient was up, and August 11th (about another week thereafter) reported at the writer's office without a spot to tell the tale.

The blood was twice examined by Dr. Carl Fisch, who reported absence of platelets both times. On June 20th, after strangury (when ergot was stopped), he examined the urine and reported as follows: Specific gravity, 1.014; acid; granular and epithelial casts; small amount of albumin; some kidney epithelium and a considerable number of leucocytes. It is to be regretted that the patient did not bring her urine as requested when last seen, but from all evidence these changes were temporary.

Since writing the above, the patient reported August 18th, having a return of the affection starting from the effects of a severe storm a few nights previously, which gave her another shock. Having put herself in the hands of a physician (?) who *promised her a permanent cure in fifteen days* (I judge by "electric-belt" treatment), I now await her promised return, *cured.*

THE PRIMARY LESION OF TUBERCULOSIS: HOW LOCATED.

By W. H. WEAVER, M. D.,
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PROFESSOR OF OTOLOGY, RHINOLOGY, AND LARYNGOLOGY IN THE CHICAGO EYE AND EAR, NOSE AND THROAT COLLEGE.

The usual location of the primary lesion of consumption in some portion of the lungs has influenced our ideas of the ætiology of the disease in leading to the inference that it was produced by the inhalation of infectious dust. Dr. David Bovaird, in the *New York Medical Journal* for July 1, 1899, shows that "the primary lesion of tuberculosis in children under five years of age is regularly in the bronchial lymph nodes or lungs." This fact is demonstrated by autopsies on seventy-five cases in the New York Foundling Hospital, "sixty cases of infection by the respiratory tract and fifteen indeterminate." He also quotes Dr. W. P. Northrup on Tuberculosis in Children; Primary Infection in the Bronchial Lymph Nodes (*New York Medical Journal,* February 21, 1891), in which are recorded eighty-eight cases of "infection by the respiratory tract," "three cases of infection by the mesenteric lymph nodes," and thirty-four cases of indeterminate infection. Dr. Bovaird makes the inference that the mesenteric glands are infected by the swallowing of tuberculous expectoration, certain to occur in children. In order to accept this view of the ætiology of tuberculosis one must absolutely reject the infectious power of tuberculous milk and other food; yet it would seem that nothing in scientific research had been more firmly established in the last several years.

Dr. W. L. West, of Ellsworth, Maine, reported that two children of a man named Luther Bridges died of tuberculosis due to drinking milk from a cow which was found, when killed, to be the subject of extensive tuberculous disease, localized in the udder. Five of Bridges's children were also suffering from pulmonary tuberculosis.

In the report of the Royal Commission on Tuberculosis in the *American Journal of the Medical Sciences,* September, 1895, experiments are reported in which pigs, guinea-pigs, and rabbits were fed on uncooked milk from tuberculous animals, and the disease was thus caused in a very large percentage of the subjects used.

Again, in their report of 1898, stress is laid on the necessity of a pure milk supply.

In Denmark the results of the government's experiment have been most encouraging toward eradicating the disease from the herds. Somewhat modified regulations similar to those established in Denmark are carried out in Pennsylvania, and as a result Philadelphia has a greatly reduced mortality from consumption.

Professor W. M. Late Coplin, of Vanderbilt University, Nashville, Tennessee, and Dr. Palmer, of Massachusetts, report equally conclusive results concerning the infectiousness of milk. Kirkpatrick, on The Spread of Tuberculosis by the Milk Supply, in the *Dublin Journal of Medical Sciences,* May, 1897, says that in his experiments it was proved that 0.05 to 0.1 cubic centimetre of tuberculous sputum diluted with non-infected milk was sufficient to produce tuberculosis.

The experiments of Zürn, Gerlach, and Klebs demonstrate the infectiousness of milk, and that the disease commenced in the form of an intestinal catarrh and infection of the mesenteric glands before the development of miliary tuberculosis.

Many other experimenters and authorities have arrived at the same conclusion regarding the infectious power of tuberculous milk.

Professor Flügge, in the *Deutsche medicinische Wochenschrift,* October 14, 1897, asserts that the assumption of the transmission of tuberculosis by inhalation of fine dust from dried sputa has never been proved, not even by Cornet, who originated the idea. It has been refuted by all experimental research, and there are no authentic cases on record in man.

Moist germs, however, retain their virulency and are disseminated abroad in speaking, coughing, and sneezing, floating in the tiny drops of moisture expelled from the mouth, and which may float entirely across the room.

Recently, however, Flügge reports the results of further experiments made, which show that infection by dried sputum ground to a fine dust is undoubtedly possible. but it is rare because the formation of such fine dust particles is not produced by the actual conditions of modern life. Expectoration in suitable vessels, so that drying is prevented, is an entirely sanitary procedure.

Birch-Hirschfeld, in the *Deutsche Archiv für klinische Medicin,* 1899, in his investigations has found that the area of lung tissue supplied by the bronchial branch designated as the ramus apicalis posterior is the usual location of the primary lesion in the lungs of adults. This area and the bronchus supplying it are from the nature of the chest wall somewhat cramped and undeveloped from puberty, being subject to very feeble respiratory movements. The dead air spaces in this area of the lung soon become unhealthy, easily congested, and favorable to the localization of the infection. Birch-Hirschfeld concludes that asepsis of the inspired air and lung gymnastics are important factors in the prevention and treatment of consumption.

It is difficult, however, to understand how the dust infection is so unfailing in its effort to get into the "dead air spaces."

In man intestinal infection is rare, considering the immense number of cases of pulmonary tuberculosis. That the lesion occurs primarily in the lungs has led to the error of considering consumption a dust-borne disease, while anatomically and physiologically the lesion should be there. Milk, butter, cheese, and possibly meat and any other infected food, are emulsified during pancreatic digestion in the intestines, and the nutritious elements, the finely divided particles, carry the bacilli directly through the lacteals without local infection. This chyle-containing bacilli, together with the lymph from the whole lymphatic system, is poured through the thoracic duct into the left innominate vein, thence with the venous blood through the right heart directly to the lungs, where infection takes place.

When the germ enters the system through the skin, it is through an abrasion, and a tuberculous ulcer forms. If it enters through the mucous membrane of the nose, mouth, or throat, the same ulceration appears. Post-mortem examinations do not show that these ulcerations occur in the trachea, or even bronchial tubes, except in the tuberculous area. It is safe to assert that germs are not absorbed through healthy mucous membrane. It is also known that dried germs are not necessarily virulent. If moist germs are inhaled, they find lodgment in the nose, mouth, or throat, and are swallowed with the saliva and mucus of the throat, thus passing through the lacteals with the chyle to the blood of the vena cava. The reprehensible propensity of slightly catarrhal patients to swallow the mucus collecting in the throat is universal and well known by medical men.

That fine particles of dust are carried into the alveoli is proved by the disease known as pneumonoconiosis, but it is doubtful if moist particles could be carried far beyond the larynx, and, if they did, infection would not take place in any case so long as the mucous membrane was intact.

Tonsillar tissue, however, does not seem to have the protecting power exerted by the skin and mucous membrane, but is easily infected. On this account Dr. J. R. Winslow, in the *Maryland Medical Journal*, May 13, 1899, recommends the entire removal of the tonsils by Pynchon's electro-cautery dissection, thus replacing them with scar tissue.

Others have shown that a certain percentage of pharyngeal adenoids are tuberculous, and certainly belong in the same category with the side tonsils as one of the gateways of infection next in importance to lacteal absorption.

It may be stated then:

1. That the infection comes through food or moist germs inhaled and swallowed, and possibly through infection of tonsillar tissue.

2. In the great majority of cases the infection occurs in the posterior portion of the lung apex, that being the most vulnerable point, as a direct result of the discharge of infected chyle into the vena cava.

3. Should that portion of the lung apex be healthy, and not a suitable nidus for the germs, they may pass on with the current of blood to find lodgment in some other area, unless the blood has exerted its bactericidal power over them, when they may be removed by the action of the phagocytes (Klebs).

The theory of Cornet has not produced the results expected in the prophylaxis of tuberculosis. Then why consider such a rare possibility when we know that there is a stream of bacilli constantly flowing into the blood current through the lacteals, capable of producing the infection in the lungs?

92 State Street.

Changes of Address.—Dr. Winifred Davey Banks, to No. 198 Washington Avenue, Newark, New Jersey; Dr. L. W. Hotchkiss, to No. 24 East Fifty-fourth Street, New York; Dr. George W. Johnston, to No. 1134 Fifteenth Street N. W., Washington, D. C.; Dr. D. Ernest Walker, to No. 254 West Forty-fifth Street, New York.

Therapeutical Notes.

Bromoform in the Treatment of Whooping-cough.—The *Progrès médical* for August 5th attributes the following formula to Berlioz:

℞ Bromoform,
Tincture of aconite,
Tincture of drosera,
Alcohol,
Glycerin, } ....equal parts.

M. To be given in daily amounts of from ten to twenty drops, according to the child's age.

Salipyrine in Gynæcological Practice.—At the recent Amsterdam Gynæcological Congress, Beuttner, of Geneva (*Centralblatt für Gynäkologie*, September 16th), reported his experience with this remedy. He regarded it as indicated in menorrhagia, with or without disease of the annexa; in metrorrhagia, with or without disease of the annexa, provided there was no cancerous process or a large tumor; in climacteric hæmorrhages; in post-partum hæmorrhage and that of abortion; in threatened abortion; in dysmenorrhœa; in uterine disturbances manifested by periodical neuralgia; in all menstrual disorders not dependent on severe organic disease; and in conditions of mental depression preceding and accompanying menstruation.

A Lotion for Urticaria.—The following formula is given in the *Journal des praticiens* for July 29th:

℞ Chloral hydrate	3	parts;
Cherry-laurel water	100	"
Distilled water	200	"

M.

Sodium Salicylate in Croupous Pneumonia.—Liegel (*Wiener medicinische Wochenschrift*, 1898, No. 19; *Centralblatt für innere Medicin*, August 12, 1899) employs large doses of sodium salicylate at the beginning of the attack, according to the following formula:

℞ Sodium salicylate	120	grains;
Peppermint water	750	"
Water	3,000	"
Bitter tincture	75	"

M. The whole to be given in the course of twenty-four hours.

Ichthyol in the Treatment of Sciatica. — Crocq (*Journal de neurologie; Presse médicale belge*, July 30th) gives daily from six to eight capsules, each containing a grain and a half of ichthyol, and orders the following liniment:

℞ Ichthyol	5	parts;
Glycerin	2	"
Water	3	"

M. To be applied with friction five or six times a day.

An Application for Exudative Coryza.—*Province médicale* for August 12th ascribes the following formula to Moure:

℞ Iodine	1½	grain;
Potassium iodide	3¾	grains;
Carbolic acid	7½	"
Laudanum	15	"
Glycerin	675	"

M. To be applied to the nasal passages with a camel's-hair brush.

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THE PLAGUE AND PREVENTIVE INOCULATION.

The *Proceedings of the Royal Society*, vol. lxv, No. 418, for August 31st, presents, after final revision by the author, the remarkable report On Preventive Inoculation by Mr. W. M. Haffkine, D. Sc., C. I. E., who is the officer employed by the government of India on bacteriological research duty. The fact that the report was communicated to the society by no less a person than its president, Lord Lister, is full of premonitory significance. After referring to the disappointment which had followed on too hasty generalizations from the results of Jenner and Pasteur, the author says:

"When we cultivate a pathogenic micro-organism in a liquid medium two different elements are obtained mixed together: the bodies of the microbe and the liquid which it has modified, and into which it has secreted its own products. A modification of the entire preparation, as represented by this mixture, can be first of all obtained by filtering and separating the two elements just mentioned, and considering each of them by itself. Or else the two can be left together, and only the vitality of the microbe is destroyed by some physical or chemical agent. Or the constitution and properties of each or of both of these elements can be, to a desired degree, altered by the admixture of chemicals, or by subjecting them to physical processes. Or the vital and pathogenic properties of the microbe can be modified by artificial breeding, and then the microbe itself, or the products of such a modified microbe, used for treatment."

The author next deals with differences of susceptibility of different animals to different poisons, and the way in which this susceptibility may be altered by various treatment of the microbes and their toxines, and concludes by saying that in general he believes it to be admissible that in the case of every disease, and with regard to every species of animals, a form of prophylactic treatment may be found which will produce immunity against disease in that particular case; but that same method of treatment may or may not be applicable to another animal or to another disease affecting the same animal.

It is the failure of taking into account this variation of circumstances that, he believes, more than anything else has checked the success of a number of experimenters.

The study of anticholera inoculation in India has revealed a new problem in the subject of prophylactic treatment. Observations upon eight thousand people, extending over two years, in cholera-infested districts—uninoculated and inoculated people often living in the same huts—showed cases of cholera occurred in seventy-seven huts, with the result that for a period of seven hundred and thirty-eight days cases of cholera occurred among the uninoculated almost from day to day, while among the inoculated cases occurred for the first four days only, after which for a period of four hundred and sixteen days the inoculated remained practically free from the disease. Then from the four hundred and twenty-first day up to the end of the observation, the seven hundred and thirty-eighth day, six more cases only occurred among the inoculated. The proportion of deaths to cases was not, however, materially influenced, upon which the author remarks that "this circumstance, the non-reduction of the case mortality by a treatment which influenced unmistakably the case incidence, appears as an astonishing divergence from the result of small-pox vaccination, where both the number of attacks and their fatality are reduced by the treatment.

"The new aspect of the problem of preventive inoculation which thus presented itself in these observations on human communities consisted in the possibility of a prophylactic treatment being directed separately toward the reduction of the number of attacks, leaving the fatality of the disease unchecked, and toward the mitigating of the character of the disease and the reduction of the case mortality in those who get attacked."

On being confronted in 1896 with the plague problem, the author, bearing in mind the discoveries of Behring and Kitasato on immunization by gradually increasing doses of toxines, and that of Gamaleia regarding immunity to lethal doses of virulent microbes apart from immunity to their toxines, determined to aim at inducing two separate kinds of immunity: one against the living microbe, which would prevent it from entering the system and causing an attack, and another against the fatality of the symptoms of the disease caused by the products of the microbe when the latter overcomes the initial resistance and does invade the system. In other words, he resolved to obtain, by treating the system with a combination of the microbic bodies and their toxines, a new preventive inoculation which should obtain at the same time a lowered susceptibility to the disease and a reduction of the case mortality.

The author next describes his procedure, and continues:

"At the end of our laboratory experiments a set of questions stood before us that were to be solved by direct experiment on human beings. Those questions were:

"1. Would man behave with regard to the prophylactic like the animals upon which its protective power had been worked out?

"2. If it so happens that the answer is affirmative, what would the dose of the prophylactic and the method of administering it be; and would not the dose required be so high, and the reaction to be produced so severe, or the number of inoculations to be repeated so great, as to render the treatment inapplicable to men, or impracticable?

"3. How many days, counting from the date of inoculation, would it take to produce in man a useful degree of immunity?

"4. How long would that immunity last?

"And, lastly, there followed two questions, to which my experience of the anticholera inoculation entitled me to give a reassuring answer, but the correctness of which it was necessary to demonstrate afresh in the case of plague, viz.:

"5. During the period of reactionary fever and all the other symptoms produced by inoculation, will the resistance of the inoculated exposed to plague be, for the time being, reduced, or remain the same, or be increased?—*i. e.*, would it constitute a danger to apply the inoculation in localities actually affected with plague? and

"6. When a man who happens to be incubating the plague, or to have initial symptoms of the disease already, chances to be inoculated, would it aggravate his condition, or have no effect, or, on the contrary, help him?"

The harmlessness was made clear by the inoculation of the officers of the laboratory, the principal and professors of Grant Medical College, and many European and native gentlemen of Bombay.

The use of the prophylactic was next subjected to three extensive tests. In Byculla Jail on the appearance of plague the comparison of 147 prisoners inoculated as against 172 uninoculated gave the following results: Uninoculated, 172, with 12 cases and 6 deaths; inoculated, 147, with 2 cases and no deaths.

From these experiments Mr. Haffkine deduces the following answers to five of his six questions—viz.: 1. Man does behave as laboratory animals do in relation to the prophylactic. 2. The dose was found to be a single injection of three cubic centimetres, reduced in later operations to two and a half, and the reaction was shown not to be too severe. 3. The difference in favor of the inoculated began to be made manifest in twelve hours. 5. The inoculation did not make the subjects more susceptible, but, as results showed, less so. 6. As regards those incubating plague at the time of inoculation, the prophylactic apparently had no effect. Question 4, as to the length of time for which immunity was conferred, could not yet be answered.

The next experiment was made on the occurrence of plague in the Umerkadi Jail in Bombay. Here 127 were uninoculated and 147 inoculated, with the following results: Uninoculated, 127, with 10 cases and 6 deaths; inoculated, 147, with 3 cases and no deaths.

The author observes that in the three cases occurring among the inoculated the character of the disease was so mitigated that the director-general of the Indian Medical Service diagnosticated them as mumps. They were, however, returned as cases of plague, so that no possibility of error in favor of inoculation should be admitted.

When plague broke out in Dharwar Jail, five cases, of which one was imported and four occurred among old prisoners of that jail, resulted fatally in every instance. The entire body of prisoners, numbering 373, then voluntarily submitted to inoculation and only one case followed, and that in a man attacked two days after the inoculation. He recovered.

A further experiment was made among the free population of Undhera, in which, prior to the inoculation, 79 victims had succumbed. The plague continued for forty-two days after inoculation, appearing in twenty-eight families. The results were as follows: Uninoculated, 64, with 27 cases and 26 deaths; inoculated, 71, with 8 cases and 3 deaths. Showing 89.65 per cent. of deaths fewer in the inoculated than in the uninoculated families.

It is needless to go in detail through the other experiments at Lanowlie, Kirkee, Damaon, Hubli, Dharwar, and Gadag, the results in all cases fully sustaining previous records. In the three last places named 80,000 people were inoculated. The difference in mortality from plague in the inoculated and uninoculated averaged between eighty and ninety per cent., the lowest results attained being at Kirkee, where it was 77.9 per cent.

Mr. Haffkine concluded by outlining the following points for elucidation by continued research:

The perfecting processes for turning out large and uniform quantities of material, and avoiding the variations due to the character of the plague microbe, and to the differences in the composition of the cultivation media.

The further investigation of the different constituents of the plague prophylactic, with a view of intensifying those which produce definite and beneficial results:

The possible mitigation of the reactionary symptoms after inoculation and

The study of the effect of antiseptics used for preserving the prophylactic.

No better comment on Mr. Haffkine's work can in our opinion be made than that uttered by the president of the Royal Society, Lord Lister, who said that the address must have convinced any one who before the meeting might have had doubts as to the value of preventive inoculation; and as to meeting all requirements for further progress he was convinced that no better person could be found to pursue the problem than Mr. Haffkine himself.

INTESTINAL IRRIGATION IN DISEASE OF THE VERMIFORM APPENDIX.

While it is now almost universally conceded that the treatment of inflammation of the vermiform appendix should be essentially operative, there is perhaps too great a tendency to look upon other measures as useless, the idea that such measures may pave the way to the successful use of the knife or supplement its results being lost sight of. With this consideration in mind, we have been much interested in a paper entitled The Non-operative Treatment of Appendicitis, by Dr. T. J. Shuell, of Parnell, Iowa, for a copy of which, reprinted from the *Transactions of the Iowa State Medical Society*, we are indebted to the author.

Dr. Shuell grants that in the great surgical centres the operative treatment of appendicular disease has vastly reduced the mortality, but he maintains that there has not been the same reduction of the death-rate in general practice, and this he imputes largely to the general practitioner's natural disposition to rely on medicinal treatment so long as that seems to hold out the least prospect of relief, with the resource in reserve of calling in a surgeon when medication is shown to be powerless, for it has been taught, he says, that the knife may be used at any period of the disease with a fair prospect of success, and this teaching has induced surgeons of small experience to operate at the height of the inflammatory process, often with disastrous results.

Dr. Shuell distrusts alike opiates and purgatives—the one because they mask symptoms and restrict peristalsis, and the other because they lead to a pumping of the contents of the small intestine into the already overloaded colon. But there is a measure which he thinks well calculated to tide a patient over the period during which an operation could not be done to the best advantage, and, indeed, to wholly obviate its necessity in many cases. This is frequent and copious irrigation of the colon. He believes that it not only tends to preserve patency of the orifice of the appendix, but also often actually dislodges concretions if they are not lodged at a point too remote from the cæcum. We should not advise too much reliance on this last-named possibility, but we have no doubt that flushing of the colon may be of material service in many cases. Dr. Shuell says that he has employed it in twenty cases during the last four years, and that in every case but one there was amelioration of the symptoms within forty-eight hours. In the exceptional case, which he did not see early, convalescence from the attack was tedious, there were two or three relapses, and the patient was finally cured by means of an operation performed during an interval of freedom from acute symptoms. Surely this is a showing which may be called very satisfactory.

MARK TWAIN ON CHRISTIAN SCIENCE.

Much as has been written in refutation of the absurdities of Mrs. Eddy's puerile cult, it is probable that the trenchant satire of our old friend Mark Twain on Christian Science and the Book of Mrs. Eddy, in the October number of the *Cosmopolitan*, will, by reaching a wider circle, effect more than all other efforts put together. That it will convince any person who has been already able to swallow the contradictions and the tissue of self-refuting statements contained in *Science and Health, with a Key to the Scriptures,* is not to be hoped for. Nothing short of a miracle could effect that. But it will probably exert a strong effect in the region of prevention, which, as we all know, is "better than cure." For humor the inimitable writing of Mark Twain can not be paralleled, but in the serious part of his argument also he traverses, with the same trenchant force we find in his humorous remarks, the very root of the whole matter. When the world generally realizes the enormous part played in *all* the functions of life by mental operations in stimulating or inhibiting nervous action, controlling the local blood supply, increasing or diminishing secretion and excretion, and retarding or accelerating metabolism, etc., it will see that it is possible that in many cases the touch of the king's hand may have seemingly cured "king's evil," that "saints' relics" may have effected a cure in cases of more than mere hysterical conditions, and that faith healers, mind curers, and Christian Scientists may sometimes effect veritable curative results; but it will realize at the same time that it is neither the virtue of royalty, nor the sanctity of relics, nor the occult power of quasi-religio-scientific systems that is the operative force in effecting the results, but, as Mark Twain says, "the same old powerful instrument—the patient's imagination. Differing names, but no difference in the process." It will further realize at the same time that it is only in those conditions which are controlled by the purely subjective, in which the factors of disturbed vital action are integral parts of the human economy and not intruders from without, and, moreover, in which the disturbed action has not been so long persistent as to produce extensive organic change, that the force from within is sufficient to overcome unaided the interference with function, or to effect its partial restitution when the mechanism itself has undergone actual metamorphosis. The cases that have been cured under Christian Science are, without a single proved exception, such as could have been equally cured by any *modus operandi*, whether at the hands of quacks or physicians, that would have inspired sufficient confidence in the patient to render him amenable to the influence of suggestion. Mrs. Eddy knows that—and that is why the Christian Scientists have ignored Dr. C. A. L. Reed's challenge published in the New York *Sun* of January 1st, a challenge which gave them a fair opportunity to substantiate in a convincing manner their claims to effect more than has been herein conceded to them.

THE MECHANICAL TREATMENT OF PTOSIS.

It seems strange that, notwithstanding all the surgical measures that have been devised for the relief of ptosis, mechanical means have apparently been entirely lost sight of in the text-books. Dr. Edward B. Heckel (*Pennsylvania Medical Journal*, September) describes in an illustrated article a device so simple in its nature that it is a wonder that it should have remained so long unthought of. The author found that Goldzieher (*Centralblatt für Augenheilkunde*, 1890) had reported a horn spectacle with a horn rim in the upper plate which, when the spectacle was adjusted on the nose, pushed up and kept up the drooping eyelid, thus acting as a sort of crutch. Dr. Heckel has modified Goldzieher's idea by the attachment of a piece of gold wire to the upper rim of an ordinary spectacle frame, bent in a fashion somewhat resembling the curved flange on Noyes's improved eye speculum, but situated, of course, when in position, externally to the eyelid instead of between it and the ball. The proper adjustment must be made by the surgeon, so as to insure accuracy and comfort. It is asserted that this appliance, by reason of its elasticity, does not irritate the eye, and permits of both winking it and closing it. The author has used this device successfully in four cases.

AN OVERZEALOUS HUMANE SOCIETY OFFICIAL.

Our New York Society for the Prevention of Cruelty to Children is generally credited with quite a sufficiency of zeal, but, if the newspaper accounts are true, it seems to have been outdone lately by a representative of the New Haven Humane Society who threatened a New York man with arrest because his little daughter appeared on the street wearing hose instead of stockings. The story is that the New Yorker having been given an hour in which to provide the little girl with stockings, preferred to take his family back to New York.

THE DEWEY RECEPTION.

Pleasure is not the only thing that may result from pageantry; some weakling generally goes to the wall in consequence of the attendant fatigue, exposure, etc., even when no catastrophe happens. Fortunately, the enormous aggregations of people who assembled to witness the naval and land parades last week felt but a minimum of the untoward effects that are apt to be incident to such displays. No doubt this was largely owing to the favorable weather, but, so far as accidents were concerned, much credit must be given to the city officials, who took unusual pains to insure stability in the stands.

MUNICIPAL PARADISES.

The *British Medical Journal* for September 23d, in an editorial on Street Noises, complains of the sufferings of Londoners on that score, and incidentally mentions that in Eastbourne "only two barrel organ grinders are allowed in the place, and they on sufferance; while the milkmen do not make a sound." Again, "in Croydon, Bath, Brighton, and the counties of Kent and Surrey no crying of goods or street music is permitted on Sunday." London is not the only city that has occasion to look with envious eye on these minor British municipalities. New York is especially a city of din and turmoil. Its noises are as distracting as they are unceasing. Noise is a nervous irritant of the worst kind, and the formation of a Society for the Suppression of Street Nuisances, such as that which has already accomplished considerable work in its first year of life in London, would have scope for an honorable career in New York.

THE PRINCIPLES OF TREATMENT.

In the *Maryland Medical Journal* for September 23d Dr. Walter B. Platt complains of the meagre instructions on treatment given in most text-books. He says: "I have yet to see a medical work devoted to treatment which was written in what I believe to be the proper way—viz., to give exact directions (as far as possible) for treatment during the different phases of a given disease, citing half a dozen or more clinical cases, to show the probable effect of treatment upon certain painful, inconvenient, or dangerous symptoms." There is some logic in this position. A handbook of treatment constructed on lines similar to those which form the basis of the law articles appearing in our columns, where the general principles are first stated and then actual cases cited in support of them, should be of great clinical value. There is some analogy, as it seems to us, between clinical therapeutics and legal practice, each being based upon general principles modified by individual cases. If we mistake not, however, there is more than one book in which these lines are followed.

A MISHAP WITH THE BINAURAL STETHOSCOPE.

Since the publication of Holmes's account of the curious revelations of a young doctor's new stethoscope we remember nothing of the sort more ludicrous than a story recently published in the *Chicago Journal*. It is to the effect that a physician was about to examine an applicant for life insurance, a member of the brass band who prided himself on his lung power. Thinking that some demonstration of this power was expected of him, he took the barrel of the stethoscope in his mouth and blew a mighty blast home upon the doctor's ear drums. The doctor, the story went on to say, was still suffering with tinnitus aurium and wearing cotton in his ears.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending September 30, 1899:

DISEASES.	Week ending Sept. 23.		Week ending Sept. 30.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	85	19	64	16
Scarlet fever	80	4	46	2
Cerebro-spinal meningitis	0	9	0	5
Measles	55	7	86	9
Diphtheria	145	26	158	20
Croup	5	6	8	6
Tuberculosis	106	128	99	118
Chicken-pox	4	0	3	0

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending September 30, 1899:

Small-pox—United States.

Everett, Mass	Sept. 15–23	1 case.	
Memphis, Tenn	Sept. 15–23	1 "	
Portsmouth, Va	Sept. 15–23	1 "	

Small-pox—Foreign.

Antwerp, Belgium	Sept. 2–9	1 case.	
Prague, Bohemia	Aug. 26–Sept. 9	6 cases.	
Rio de Janeiro, Brazil	July 27–Aug. 11	121 "	63 deaths.
Cairo, Egypt	Aug. 19–26	1 case.	
Bombay, India	Aug. 5–29	12 cases.	
Athens, Greece	Sept. 2–29	7 "	
Chihuahua, Mexico	Sept. 8–16		6 "
Moscow, Russia	Sept. 2–10		3 "
Odessa, Russia	Aug. 26–Sept. 9	2 "	1 death.
Warsaw, Russia	Aug. 26–Sept. 9		8 deaths.

Yellow Fever—United States.

Key West, Fla	Sept. 25–29	166 cases,	9 deaths.
Miami, Fla	Sept. 5–22	2 "	1 death.
New Orleans, La	Sept. 15–23	10 "	4 deaths.
New Orleans, La	Sept. 25–29	9 "	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	July 28–Aug. 11		4 deaths.
Cartagena, Colombia	Aug. 26–Sept. 9	1 case,	1 death.
Panama, Colombia	Sept. 12–19	3 cases,	1 "
Tampico, Mexico	Sept. 15–22		1 "
Tuxpan, Mexico	Sept. 4–11		3 deaths.
Vera Cruz, Mexico	Sept. 14–21		6 "

Cholera.

Bombay, India	Aug. 15–29		4 deaths.
Calcutta, India	Aug. 5–19		15 "
Karachi, India	Aug. 12–19	3 cases,	2 "
Osaka and Hiogo, Japan	Aug. 19–26		1 death.
Yokohama, Japan	Aug. 19–26		1 "

Plague.

Amoy, China	Aug 5–12	40 cases,	40 deaths.
Hongkong, China	Aug. 5–19	44 "	46 "
Alexandria, Egypt	Aug. 28–Sept. 3	1 case,	1 death.
Bombay, India	Aug. 15–29		159 deaths.
Calcutta, India	Aug. 5–19		87 "
Karachi, India	Aug. 12–19	2 cases,	2 "

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Surgery, on Tuesday evening, the 3d inst., the following papers were presented for discussion: A Report of the Operative Treatment of Several Cases of Frontal and Maxillary Sinusitis, by Dr. Frank W. Hinkel; and Subphrenic Abscess, by Dr. Prescott Le Breton.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending September 28, 1899:*

Mead, F. W., Surgeon. Granted leave of absence for two days.

Blue, Rupert, Passed Assistant Surgeon. Granted leave of absence for one month and eight days from October 6th.

Tabb, S. R., Assistant Surgeon. To proceed immediately to South Atlantic Quarantine for temporary duty.

Von Ezdorf, R. H., Assistant Surgeon. To proceed to Miami, Florida, for special temporary duty.

Billings, W. C., Assistant Surgeon. Relieved from duty at New York, and directed to report in person at the bureau for temporary duty in charge of the Miscellaneous Division.

Bailey, C. W., Acting Assistant Surgeon. Granted five days' leave of absence.

Walkley, W. S., Acting Assistant Surgeon. Granted leave of absence for four days.

Comfort, N. C., Hospital Steward. To report at the bureau for orders. To proceed immediately to New York and report to Passed Assistant Surgeon H. D. Geddings for assignment to duty in charge of the steamer *Wapiti* on her voyage from New York to Florida.

Births, Marriages, and Deaths.

Married.

Cash—Work.—In Hot Springs, Arkansas, on Wednesday, September 27th, Mr. Walter G. Cash and Miss Georgia Work, daughter of Dr. S. M. Work.

Clark—Williams.—In Defiance, Iowa, on Wednesday, September 20th, Dr. Robert M. Clark and Miss Kathryn Williams.

Gillette—Sanford.—In Buffalo, on Wednesday, September 27th, Dr. James Frederick Gillette, of New York, and Miss Anna Gertrude Sanford.

Hershey—Howe.—In Buffalo, on Wednesday, September 27th, Mr. Charles A. Hershey and Miss May Grant Howe, daughter of Dr. Carey W. Howe.

Died.

Cunneely.—In Hoboken, New Jersey, on Saturday, September 30th, Dr. Henry C. Cunneely.

Douglas.—In Atlanta, Georgia, on Thursday, September 7th, Dr. George Baskerville Douglas, in the eighty-fourth year of his age.

Gallion.—In Natchitoches, Louisiana, on Thursday, September 28th, Mary Cornelia Gallion, wife of Dr. Zachary T. Gallion.

Hendricks.—In Minneapolis, on Monday, September 25th, Dr. George A. Hendricks, of the University of Minnesota.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.[*]

By ARTHUR N. TAYLOR, LL. B.

XXXIX.

CRIMINAL LIABILITY.

(*Continued from page 496.*)

Guilt to be Determined by Jury.—In determining whether or not, in a given case, a physician has been guilty of such gross professional conduct as to render him criminally liable, the question is one of fact which it is the defendant's constitutional right to have submitted to a jury for determination.[†] The jury, in arriving at their conclusion, are not to be governed by the usual test applicable in civil matters, and find the accused guilty because a preponderance of the evidence submitted shows guilt, but they must, before convicting, find the evidence showing guilt to be so strong as to exclude all reasonable doubt of innocence. Such a doubt must, however, be one founded upon the circumstances and evidence, and not a doubt resting upon mere conjecture or speculation.[‡] This is the test applicable in all criminal matters.

Intoxication of Physician.—The fact that the fatal treatment may have been superinduced by drunkenness, or that the physician may have been in an intoxicated condition while rendering the services that resulted in the patient's death, would at common law be a circumstance for the jury to take into consideration in determining whether the defendant had been guilty of grossly improper conduct. The legislatures of several States have, however, expressly provided that a physician who administers while intoxicated a poisonous drug or medicine which results in death shall be held guilty of manslaughter, and many of the States have passed laws making it a misdemeanor for one to practise as a physician while intoxicated.[*]

No Right to Terminate Life.—The question of whether or not the physician ever has the right to terminate life, either that of a patient hopelessly ill and suffering intense agony, or that of a newly born monstrosity, has been very interestingly discussed, rather from an ethical than from a legal standpoint, before the Medico-Legal Society.[†] Legally speaking, no such right exists.

Obtaining Money under False Pretense.—Similar to the civil liability resulting from deceit is the criminal liability from obtaining money under false pretense. An interesting case of this sort was recently passed upon by the court of appeals of Maryland. Here the complaining witness called upon the defendant for medical treatment. The details of the interview are perhaps best told in the words of the witness, which were as follows: "The professor offered me paper and told me to write my name and age upon it, and not let him see what I wrote. I wrote my name and age upon the paper, and he walked up and down the room and looked out of the window, and took the paper and folded it up, and placed it against his forehead, and then told me what I had written on the paper. He said, 'You suffer from stomach trouble, and I can and will cure you within six weeks; if not, I will return you your money.' I asked him when I should call again, and he said, 'Don't come; I will come and see you and work on you four hours, and after that you will be well.' He also gave me a charm to wear. I wore it around my neck for one hour. He said to wear it was essential to the treatment. I am not over the stomach trouble yet. He never came to my house and worked on me. I paid him twenty-six dollars and thirty cents." After this, and before the time fixed for curing the witness, the defendant left.

It will be remembered that no expression of opinion or promise of future events will ordinarily afford ground for an action based upon deceit. Upon similar grounds it is held that the criminal action for obtaining money under false pretense can not be based upon a promise of future profits or benefits. The counsel for the accused in the present case, therefore, contended that the accused's promise of future benefit would not sustain such a prosecution. The court was, however, of the opinion that the essential part of the transaction was the accused's representation that, in effect, he was then and there possessed of supernatural power whereby he could cure witness. This part of the transaction was no promise as to the future, but a positive assertion of a present condition, and the mere fact that a promise of future benefits operated with this representation as a part of the inducement under which the witness parted with his money would not operate to defeat the prosecution. The prisoner was held guilty.[‡]

The purpose of this chapter being to examine only those questions of criminal liability resulting from the improper exercise of professional duties and the exercise of professional functions which are in themselves unlawful, notice will not be taken of those cases in which the physician has been guilty of criminal conduct of an ordinary character, even though committed in the course of his professional relations with his patients.

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[*] The following errata occur in Mr. Taylor's thirty-seventh article, published in our issue for September 23d: The reference on the second column should read, "Becker *vs.* Janinski, 27 Abb. N. C., 45"—not 48. In line 42 of the third column read, "at what *points* the report does not show." The conclusion of the article should read, "a complete bar to another action brought for the recovery of such future damages."

[†] *Ex parte* Wong Yon Ting, 106 Cal., 296, 39 Pac. Rep., 627.

[‡] U. S. *vs.* Knowles, 4 Sawy., 521.

[*] Such acts have been passed in the States of California, Idaho, Michigan, Minnesota, Montana, Nebraska, New Mexico, New York, North Dakota, Ohio, Oregon, South Dakota, Utah, Washington, Wisconsin, and Wyoming.

[†] An interesting paper on the subject, by Clark Bell, Esq., may be found in vol. lv, *Albany Law Journal*, p. 136.

[‡] Jules *vs.* State, 85 Md., 305, 36 Atl. Rep., 1027.

Criminal Abortions.—The most prolific source of criminal litigation growing out of the conduct of the physician in the exercise of the functions of his profession is the procurement of abortions.

Abortion as a criminal act seems to be of comparatively recent origin, as neither the ancient law writers nor the early English statutes refer to it as such.*

In many of the States the procurement of an abortion with the consent of the mother, before the child became quick, was not at common law considered a criminal act.† The theory upon which the courts arrived at this conclusion was that the procurement of an abortion, when the mother had given her consent to the operation, could be considered a wrong as against the child only. According to Blackstone, life begins, in contemplation of law, as soon as the infant is able to stir in the mother's womb; therefore, prior to this period the law did not, at least for the purposes of the present inquiry, recognize the child as *in esse* and capable of being the object of a criminal intent or act.‡ The early statutes in several of our States apparently recognized this distinction in providing that the killing of an unborn "quick" child should constitute the crime of manslaughter, etc.

This distinction is, however, forcibly repudiated by the Pennsylvania courts in the case of Mills *vs.* Commonwealth,# wherein the court, in reference to the contention that the absence of an allegation that the mother was quick, rendered the indictment defective, said: "Although it has been so held in Massachusetts and in some other States, it is not, I apprehend, the law in Pennsylvania, and never ought to have been the law anywhere. It is not the murder of a living child which constitutes the offense, but the destruction of gestation by wicked means and against Nature. The moment the womb is instinct with embryo life and gestation has begun, the crime may be perpetrated." This case was followed as a precedent by the supreme court of North Carolina."‖

Notwithstanding the fact that it was at common law not generally considered criminal to commit an abortion upon a woman, with her consent, before the child quickened, yet if one performed such an act and the death of the mother ensued he was held guilty of murder. This was upon the ground that the act was without lawful purpose and dangerous to life, and that the consent of the mother could not take away the imputation of malice or criminal intent.△

It seems that at common law an abortion, when committed with the mother's consent, and after quickening, was not a crime, but only a misdemeanor, which could not be punished by imprisonment in the State prison.*

This question is now regulated by statutes in the several States which specify what acts shall be considered tantamount to the crime in consideration and provide penalties for their violation.† These statutes in most States now fail to draw any distinction between the commission of the offense or attempt at commission before and after the quickening of the child, making it a felony in either case. The statutes of some States, however, preserve the distinction by providing a more severe punishment when the act or attempt is committed after quickening.

A detailed examination of the statutes of the several States would require a greater space than can here be devoted to that purpose; we will therefore pass over the subject with a general statement of the most usual provisions contained in such statutes, which are that any person who shall administer to any pregnant woman any medicine, drug, or noxious thing, or who shall use or employ any instrument or other means with intent to produce a miscarriage, unless the same shall be necessary to preserve her life, shall be guilty of a felony.

Some States provide that the performing or attempting to perform an abortion shall be a misdemeanor, and that in case death results from the act the party performing the same shall be guilty of manslaughter. The effect of such statutes is, however, simply to reduce the crime of performing or attempting to perform an abortion from that of a felony to a misdemeanor, for the provision that the party performing the operation shall be guilty of manslaughter when death ensues does not in any material respect alter the common law. The common law upon this subject seems to be that where one attempts to cause an abortion in a way not to inflict serious injury upon the mother, and the mother dies from negligence in the operation, there being no intent to kill her, or to inflict serious injury, and no likelihood of such result, the offense is manslaughter; if, however, the act is one from which death or great injury would be likely to result, or if it were performed with intent to produce death or grievous injury, then the offense is murder.‡

The liability of the mother for causing herself to miscarry, it seems at common law was regarded much the same as that of a third person. If she committed the abortion before the child had quickened she was not guilty of a crime, but if after quickening she was considered guilty. The statutes of the several States making it a crime for any person to administer to any pregnant woman any drug, etc., for the purpose of unlawfully producing an abortion, are construed as applying to third parties who commit such acts, but not as incriminating the mother who performs an abortion upon herself.# Nor was the submission of the mother at common law to the act of another in producing an abortion upon her held to render her an accomplice in the commission of the crime. She

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* Archibald's Crim. Pr. and Pl., 951.

† This was held to be the law in Iowa, Kentucky, Maine, Massachusetts, Michigan, Missouri, and New Jersey.

‡ State *vs.* Cooper, 22 N. J. Law, 52.

Mills *vs.* Commonwealth, 13 Pa. St., 630.

‖ State *vs.* Slagle, 83 N. Car., 630.

△ Commonwealth *vs.* Parker, 50 Mass., 263; Smith *vs.* State, 33 Me., 48.

* Evans *vs.* People, 49 N. Y., 86; Holliday *vs.* People, 9 Ill., 111.

† The matter in Kentucky seems to be without statutory regulation.

‡ Wharton's Crim. L., § 325.

Smith *vs.* Safford, 31 Ala., 45; Hatfield *vs.* Gann, 15 Iowa, 177.

was looked upon rather as a victim of the act than as a *particeps criminis*.*

Statutes have, however, been enacted in some States making it a criminal offense for the mother to take any medicine or use or submit to the use of any instrument for the purpose of procuring her own miscarriage. Such a statute, it will be seen, entirely supersedes and alters the common law.†

Advice to Produce an Abortion.—The mere solicitation or advice given to a pregnant woman that she take medicine or adopt means to produce a miscarriage does not constitute a crime unless the solicitation or advice is acted upon. In the case of Lamb *vs.* State,‡ the act upon which the prosecution was based was the solicitation of a pregnant woman to take certain drugs for the purpose of causing an abortion, but it was not shown that the woman did take the drugs. In this case, after observing that the act complained of was not included in the terms of the statute, the court said: "It may be urged that a solicitation is an attempt, and that an attempt to commit a misdemeanor is a misdemeanor. Pursuing the same train of inference and reasoning, we may go a step farther, and maintain that as the solicitation is a misdemeanor, an attempt at solicitation would, by the same rule, be also a misdemeanor. This process might be indefinitely extended, so as to reach persons very remotely separated from the act which the statute intended to punish. Certainly it would be a great calamity to invent crimes by subtle, ingenious, and astute deduction. In all free countries the criminal law ought to be plain, perspicuous, and easily apprehended by the common intelligence of the community. It is the essence of cruelty and injustice to punish men for acts which can be construed to be crimes only by the application of artificial principles according to a mode of disquisition unknown in the ordinary business and pursuits of life."

A more recent and a stronger case than the above was decided by the New York court of appeals in 1892.# Here the crime was charged as having been committed by *advising* a pregnant woman to take a medicine, drug, or substance, and to use means to procure a miscarriage; but it was not shown that the advice was acted upon. The statute under which the defendant was prosecuted provided that "a person who, with intent thereby to procure the miscarriage of a woman, unless the same is necessary to preserve the life of the woman, . . . *advises* or causes a woman to take any medicine, drug, or substance, . . . is guilty of abortion, and is punishable, etc." The court said: "It would be a very strict and literal, if not extraordinary, construction of this section to hold that proof of mere suggestion or advice, without evidence of its being acted upon, could convict a man." The court, in discussing the question further, after observing that it would be competent for the legislature to impose a penalty for mere giving advice to a woman to take a medicine to produce an abortion, irrespective of its being acted upon, said: "For the man to be 'guilty of abortion' within the provisions of this chapter, who has advised the woman to take a drug, it is necessarily and logically to be implied that his advice should have been followed by the act. Otherwise we should have to draw the apparently absurd conclusion that the legislature intended that abortion could be committed or caused by the act of offering advice."

Intent, Rather than Efficacy of Means Employed, Governs.—In one of the first English statutes * enacted for the purpose of preventing the procurement of abortions, the expression "any poison, drug, or noxious thing" was made use of in describing an unlawful means of performing the forbidden act. This expression has been reenacted in the statutes of many of our States, and is judicially defined as being any drug, medicine, or other thing which is hurtful or harmful.

Under the New Jersey statute which makes it a crime to administer any drug, poison, medicine, or noxious thing with intent to produce an abortion, the court held that it was not necessary that the drug or medicine used should accomplish the effect designed, or should even be capable of producing a miscarriage; but if it is hurtful and is administered, prescribed, or advised with the intent to cause a miscarriage, the crime is complete the moment the medicine is taken. The reasoning of the court in this case is based upon sound policy, and should commend itself as correct law whenever the question may in the future arise. Justice Scudder, in assigning the reason for this conclusion, said: "The design of the statute was not so much to prevent the procuring of abortions, however offensive these may be to morals and decency, as to guard the health and life of the female against the consequences of such attempts. . . . It is dangerous to the life and health of the mother and to the existence of the child to experiment with any drug, medicine, or noxious thing to produce a miscarriage. The ignorance of the operator may lead him to select something that will not have the effect he designs; but if it be noxious in any degree, though in the judgment of others who have greater knowledge it can not produce the effect intended, it is within the statute." †

In a case ‡ similar to the one above, and in which the law was held substantially as there stated, the supreme court of Colorado held that the character and capabilities of any drug alleged to have been used in the procurement or attempted procurement of an abortion are questions of fact to be determined by the jury upon the evidence before them. In referring to the essential element of the crime the court said: "The acts sought to be prohibited and the crime sought to be punished are the using of noxious substances and instruments with intent to produce miscarriage. It is not necessary that the miscarriage should take place—that is, that the administering of the drugs or the use of the instrument should be followed by the expulsion of the fœtus. That is not necessary to constitute the crime. It is the administering the noxious substance or the use of the instruments with intent to produce miscarriage that makes up the crime."

A recent case in apparent conflict with the doctrine upon which the preceding cases are based comes from the Texas court of appeals.# A more careful

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* Dunn *vs.* People, 29 N. Y., 523; Com. *vs.* Wood, 11 Gray (Mass.), 85.

† Such laws exist in California, Connecticut, Idaho, Indiana, Minnesota, Montana, North Dakota, New York, South Carolina, South Dakota, Utah, and Wisconsin.

‡ Lamb *vs.* State, 67 Md., 524, 10 Atl. Rep., 208.

People *vs.* Phelps, 133 N. Y., 267; 30 N. E. Rep., 1012.

* 9 Geo. IV, c. 31, § 13.

† State *vs.* Gedlicke, 43 N. J. Law, 86.

‡ Dougherty *vs.* the People, 1 Colo., 514.

Williams *vs.* State, Tex. App., 19 S. M. Rep., 897.

examination of the case, however, shows that the conflict is only apparent, for the decision is based upon the wording of the Texas statute which requires that the means employed to produce the abortion shall be calculated to be efficacious. Here the accused administered cotton-root tea. Experts for the State testified that while medical books said an abortion was liable to follow the administration of cotton-root tea, they knew nothing of it by personal observation, and thought that as administered to the prosecuting witness by the defendant it was not calculated to produce an abortion.

Upon the question in consideration the case of Commonwealth *vs.* W.* is instructive. The statute under which the defendant was prosecuted was as follows: "If any person, with intent to procure the miscarriage of any woman, shall unlawfully administer to her any poison, drug, or substance whatsoever, or shall unlawfully use any instrument, or other means whatsoever, with like intent, such person shall be guilty of felony." The evidence in this case tended to show that the defendant had been guilty of improper liberties with the complaining witness; that shortly thereafter her fears were excited by an irregularity in her monthly courses, and that she made this known to the defendant. He expressed the belief that she had taken cold, and advised the use of a tea, and afterward brought her a phial of iron tincture, instructing her to taken ten or fifteen drops before meals for the purpose of strengthening her. Professional evidence was given that the iron could do her no harm, but on the contrary was a benefit to her.

The court instructed the jury, in effect, that the motive or intent of the defendant in furnishing the prosecutrix with the iron should govern in determining his liability; that at the time the iron was given there was no certainty of pregnancy, and that his motive as expressed did not indicate a criminal intent; yet if they concluded from all the circumstances that the drug was administered with intent to procure a miscarriage, they should find the defendant guilty. The evidence further showed that the prosecutrix, after undergoing violent and excessive exercise, jumped from a ladder, the effect of which was to cause a miscarriage. Whether or not this means, if induced by the defendant, rendered him liable under the statute was a question strongly opposed by the defense, who urged that the words of the statute defining the crime, "or shall use any instrument or other means whatsoever," imply some act to be done by the defendant and not by the woman herself under his advice. Upon this question of law the court said to the jury: "We have given this question some reflection, and our conclusion is, to submit the case to you upon the evidence, with the instruction that the third count (alleging the excessive exercise and jump as an act induced by the defendant) sets forth the offense within the intent and meaning of the act of assembly.

"We are not prepared to adopt the view of the law presented by the defendant's counsel, for the reason that such an interpretation would greatly abridge what we conceive to be the remedial design of the act, and to a great extent frustrate the expressed intention of its framers. If a person intent on inducing an abortion must not only prescribe the drug, but with his own hand put it to the victim's lips, or, after contriving the mechanical means, must to moral constraint superadd physical force, we can readily perceive how the abortionist may practise his nefarious schemes with impunity in the very face of the statute. Upon the commonwealth's evidence, the case is one of criminal abortion—that is, unlawful means were made use of to procure a miscarriage. The defendant, according to the evidence, contrived these means, and used the prosecutrix in rendering them efficacious; what she did was as much his act as if she had been moved to it by outward constraint. The means used to produce the abortion, therefore, were used by the defendant just as much as if he had employed physical instead of moral force."

Upon the question of fact to be determined by the jury the court instructed them that they were to consider carefully all the evidence, and from that determine whether the defendant conceived the violent and excessive exercise as a means of producing a miscarriage, and whether he induced her to employ it with intent on his part of producing a miscarriage.

The jury failed to agree and were discharged. The prosecutrix soon removed to another State, and it seems was prevented from returning and appearing in court by declining health. A *nolle prosequi* was therefore entered and the defendant dismissed.

(*To be continued.*)

Pith of Current Literature.

The Treatment of Ulcerative Stomatitis. — Kissel (*Progrès médical,* September 2d) rinses the child's mouth every hour with a three-per-cent. boric-acid solution and rubs twice daily the entire buccal cavity, and particularly the gums and ulcerated parts of the mucous lining of the cheeks, with a plug of cotton wet with the same lotion. Cod-liver oil is prescribed, and before commencing treatment unsound teeth (*dents tout à fait inutiles*) are extracted. Under this treatment ulcerations are said to disappear in from six to ten days. In private practice, when such minute attention is not possible, the author, after extracting the teeth as before, curettes the ulcerations to the bottom, then with a finger enveloped in gauze he rubs iodoform powder into the ulcerated surfaces. The buccal cavity is cleansed twice daily with a tampon of cotton wet with the same boric-acid solution and the mouth is rinsed hourly with the same solution.

The "Moth Ball" as a Protection against Mosquitoes.—One of the little white balls known as "moth balls," which appear to contain a crude form of carbolic acid or some equally fragrant coal-tar product, rubbed on a mosquito bite, has considerable efficacy in allaying the itching. Moreover, when rubbed upon the face and hands, it seems to keep the mosquitoes away.

The Contagiousness of Leprosy.—Dr. J. Ross MacMahon (*Lancet,* September 16th), after describing a case of leprosy contracted in England by a man who had never been out of Britain, remarks that a man who had never been beyond the confines of England, who belonged to a healthy stock, and who had no ascertainable intercommunication with any source of infection should become a leper leaves no alternative but to assume that he happened to meet with some source of infection within those shores. Bearing on this point, he would state that though he can not boast of being in a favorable position for meeting with cases of any particular disease—to say naught of leprosy—he knows personally of some eight or nine lepers in London.

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* Com. *vs.* W., 3 Pittsb. R., 463.

How, he asks, did this man become infected with leprosy? As an illustration of the facilities which exist for infection, he mentions the case of a Russian married woman, thirty-two years of age, who was a leper, and afflicted with the most virulent type of the disease which it was possible to conceive. From head to foot she was one ulcerating mass, with large anæsthetic areas; she had the typical leonine face, and she was bereft of several fingers and of all but two of her toes. From the ulcers a copious sanious discharge was exuding, and her case was rendered the more loathsome by the abominable smell which emanated from her body. She had married an Irishman in Russia nearly thirteen years previously and had been in this terrible condition for the last few years, sometimes better and sometimes worse. She never infected her husband, although he cohabited with her until three years ago. The author was particularly careful to elucidate this point. He saw the woman in London about two years ago. She had crossed from her residence in Ireland to secure hospital treatment. On arriving in London she obtained a lodging in a small third-rate hotel. There she spent one night, and he believes left to return to Ireland. It is notorious that in such hotels the bed sheets have in many cases to do service on more than one occasion, and it is obvious, therefore, how in one way infection may be possible in London. The author thinks it is a pretty generally accepted theory, although he is aware of one prominent authority who dissents from this view, that leprosy is conveyed by intimate contact with the source of the infection, and it is extremely interesting to find that the male or female leper can cohabit with a wife or a husband for years without imparting infection. The author knows of at least three male lepers and one female leper who are married and have been cohabiting with healthy partners for years without imparting infection to them. In connection with this he has noticed the translation of a paper by Azuero in which he remarks upon the fact that women do not shrink from cohabitation with lepers and that he has never known a case in which they were infected by coitus with them; but numerous authenticated cases demonstrate that other healthy males indulging in coitus with leprous women become infected. Azuero has observed forty cases and Carrasquella over one hundred cases in which the husband or the wife remained unaffected by the other's disease throughout a long married life. When the author saw the man to whose case he had referred he at once thought of the woman from Ireland staying at the third-rate hotel and the vision of the sheets crossed his fancy.

The Relative Toxicity of Cocaine and Eucaine.—Dr. H. H. Peck (*Journal of the American Medical Association,* September 9th) says that his experiments lead him to the following conclusions:

1. The action of cocaine is inconstant; one never knows whether the symptoms occasioned by like quantities of the drug, in animals or individuals, under like circumstances, will be similar or dissimilar.

2. The action of eucaine is constant. The symptoms occasioned by the use of like quantities in animals under like circumstances, and, so far as the author's experiments have gone, in different individuals also, are the same.

3. The first action of cocaine on the heart is that of a depressant, and on the respiration it is that of a mild stimulant, the after-effects being, on the heart, that of a decided stimulant, and on the respiration, that of a decided depressant.

4. The first action of eucaine on both the heart and respiration is that of a stimulant, the after-effects being those of a decided depressant.

5. Cocaine causes death in animals by paralyzing the muscles of the respiratory apparatus, the heart's action continuing in a feeble way for a brief period after breathing ceases.

6. Eucaine causes death in animals by paralyzing the muscles of the heart and of the respiratory apparatus, which cease to operate simultaneously.

7. Eucaine in toxic doses nearly always causes nausea, and occasionally vomiting.

8. Cocaine is much less nauseating and scarcely ever causes vomiting.

9. Eucaine is decidedly a diuretic, causing renal discharge in a majority of instances in which a toxic dose is used.

10. Cocaine is not a diuretic to any appreciable extent, renal discharge having occurred in only one instance in connection with all the author's experiments.

11. The pupils of the eyes, in nearly all cases of cocaine poisoning, do not respond to light, and the eyes are more or less bulging from their sockets.

12. The pupils of the eyes, in most cases of eucaine poisoning, do respond feebly to light, and the eyes rarely bulge from their sockets.

13. The action of toxic doses of eucaine is more like that of a paralyzing, tetanoiding, convulsion-producing agent than of an anæsthetizing one, the plantar and cremasteric reflexes nearly always responding.

14. Toxic doses of cocaine cause general anæsthesia in connection with the other symptoms in the majority of cases.

15. True tetanus of all striped muscles of the limbs, and Cheyne-Stokes breathing, nearly always occur with the use of cocaine, but seldom does either occur when eucaine is used.

16. Cocaine is at least three times more toxic than beta eucaine, and alpha eucaine is as toxic as cocaine.

17. Boiling does not destroy the efficacy of cocaine, but it does modify it, and boiling in no degree lessens the efficacy of eucaine.

The above deductions have been made only after many experiments in connection with each individual point. The author has observed many interesting features in connection with the relative worth of these drugs as local anæsthetics, but his paper does not treat of this phase of the work. There is much experimental work yet to be done in this connection, the results of which he will present at some future meeting.

Hereditary Syphilis.—Mr. Jonathan Hutchinson, F. R. S., F. R. C. S. (*British Medical Journal,* September 16th), speaking recently at the Brussels Conference of Social Hygiene, said that in his opinion hereditary syphilis would disappear if the rule was generally adopted that two years' interval after infection should elapse before marriage. He held, in opposition to Professor Fournier, that syphilis was not dangerous to the race, but disappeared in the third generation. Under the modern use of mercury syphilis was curable and was generally cured.

Dangerous Flowers.—M. Domingos Freire (*Journal de médecine de Paris*, September 3d), as a result of researches instituted by him on flowers, shows that flowers can afford a resting place to saprophytic and pathogenic microbes and thus become a source of contamination. He thinks, moreover, that some relation exists between the colors of flowers and the pigment elaborated by the microbes which find shelter in them. The rosy tint of the Rothschild rose is similar to that of a plate culture of *Leptothrix ochracea* before it arrives at the brick-red stage. The egg-yolk yellow of colonies of *Micrococcus cruciformis* he finds to be of the same tint as that of the coloring matter on the anthers of the *Hibiscus rosa sinensis.* Furthermore, many kinds of microbes that the author would term "osmogenous" reproduce odors resembling those disengaged by the essences of the plants in which they live.

Poisoning from Artichokes.—According to the *Sanitarian* for September, M. Roger has reported to the Société de biologie a small epidemic of gastro-enteritis which occurred in his practice recently, which he was able to trace directly to the ingestion by those attacked of preserved or canned artichokes. Examining the contents of one of the boxes, the vegetable was found to be of a handsome, almost natural, green color, which at first gave him the idea that he had to deal with the effects of a copper salt. Chemical analysis, however, revealed no trace of that metal. He then submitted the material to an examination by bacteriological methods, and was able to isolate a colon bacillus and a micrococcus. The latter, on pure cultivation, was found to have the property, when cultivated on slices of artichoke, of communicating to the latter an intense green color. The micrococcus is pathogenic to the rabbit.

The Early Diagnosis of General Paralysis of the Insane.—Under this title Schwarz (*St. Petersburger medicinische Wochenschrift*, 1899, No. 4; *Albany Medical Annals,* September) discusses pupillary anomalies with especial reference to their relations to the incipient stages of general paralysis. General paralysis usually presents a row of symptoms which permit an easy diagnosis, but in its incipiency, when the chance for amelioration is afforded, they are so ambiguous as not to be of service in the diagnosis. This is especially true of the mental manifestations. Certain bodily symptoms, however, may give warning, and chief among these are the changes in the pupils, especially the variations in their reaction to light. The writer examined fifty early cases of paralysis, and found that in four there were no pupillary reactions; in sixteen there was isolated double-sided immobility to light—that is, neither pupil reacted to light, although both responded to convergence and accommodation; in seventeen cases the reaction was more or less sluggish, so slow that it could only be seen with a magnifying lens, or it was withheld in one eye and present in the other; and in thirteen cases the pupils were normal. The author then reviews the literature of this subject, including observations upon a much larger number of patients. The reflex palsy may be one-sided, but is generally double. Gowers has noted in a case of locomotor ataxy a qualitative reaction, in which the pupil responded promptly to light, but immediately dilated, and to a greater degree than before the contraction; there may be cited as a curiosity the so-called paradoxical reaction, in which the pupil dilates instead of contracts upon the exposure to light. Hippus has also been once observed, but, as this condition is generally physiological, or, when pathological, may stand for neurasthenia, acute meningitis, hemiplegia, multiple sclerosis, and other conditions, its significance must not be misinterpreted.

Reflex pupillary immobility has been found also in locomotor ataxy, senile dementia, alcoholism, focal cerebral lesions, cerebral syphilis, traumatisms of the head, epilepsy, hysteria, and paranoia. The relations of this symptom with locomotor ataxy complicated by mental symptoms is especially interesting. In one such case seen by the writer, the patient was profoundly melancholy; his history showed that in youth, before the acquisition of syphilis, he had suffered from melancholy, and his case record thus shows that the combination of symptoms does not justify the anticipation of general paralysis. As in all the cases the greatest number by far were those of general paralysis; the author is justified in attaching great importance to the pupillary manifestations. He summarizes as follows: 1. In the great majority of cases of insanity in which reflex immobility of the pupil is present (ninety-two per cent.) the diagnosis of general paralysis is justified. 2. In the great majority of cases of general paralysis (seventy per cent.) isolated reflex immobility of the pupils is found. 3. Isolated double-sided pupillary immobility is characteristic of general paralysis. Still in the earliest stages a limitation of the pupillary reaction may have a similar significance as above—(1). 4. Immobility of the pupils combined with failure of the convergence reaction does not negative the diagnosis of general paralysis. 5. Isolated double-sided pupillary immobility may exist for years without the development of general paralysis or locomotor ataxy. 6. It is an early symptom of general paralysis, and has been seen for years before the ensuing general paralysis has developed.

Sleep, Sleeplessness, and Hypnotics.—Dr. Bradbury (*British Medical Journal*, July 15th; *University Medical Magazine*, September) states, in the Croonian Lectures, that the great principle of therapeutics—the removal of the cause—should ever be kept in mind. The causes of insomnia may be classed under four heads—irritative, toxic, psychical, and those arising from change in the mode of life.

1. *Irritative Causes.*—This class includes all forms of insomnia caused by pain and milder irritations—teething, indigestion, worms, eye strain, inconvenience of faucial adenoids, cold feet, asthma, and vesical irritation.

2. *Toxic Causes.*—Under this head may be mentioned alcoholism, gout, nicotism, gastric and intestinal disorders, Bright's disease, and excessive use of beverages.

3. *Psychical Causes.*—Grief, shock, worry, and mental anxiety are among the most frequent causes of insomnia.

4. *Causes arising from the Change in the Mode of Life.*—Eating late dinners by those unaccustomed to them and change of climate sometimes give rise to insomnia.

After removing the cause, hypnotics are often of great value in breaking the habit of sleeplessness. The best of these for any individual will vary according to his condition. There is no absolutely safe one, but experimental investigation and clinical experience show that paraldehyde stands in the first rank. Chloralamide and chloralose are safer, but slower in action, than chloral hydrate, and of the two the author prefers chloralamide. The sulphones (sulphonal, trional, and tetranal) are also valuable, and in practice he has found sulphonal the most valuable of the three. On the whole, the bromides seem to be the least harmful, and in simple cases, uncomplicated by other disease, it is his practice to try them before resorting to any other drug.

Sleeplessness from overwork, and especially literary work, requires mental rest and change of air and scene. Temporary exposure to the cool air of the bedroom, or the wet pack, or a bath is often useful, and so is a glass of whisky and water at bedtime, especially in those unaccustomed to the use of alcohol. Twenty grains of sulphonal, or thirty or forty grains of potassium bromide, may be given to break up the habit of sleeplessness. Capsules containing thirty minims of turpentine, given at bedtime, are sometimes beneficial in the insomnia of overwork and worry. The drug acts as a stimulant and derivative, and is stated to act best in plethoric cases. No beverage containing caffeine should be taken after breakfast. In nervous and hysterical women, and especially in women at the menopause, the bromides are very useful. The writer has long been in the habit of giving a mixture of bromide, tincture of sumbul, and tincture of hops, in camphor water at the climacteric; and it has helped to remove the insomnia as well as the mental depression, flushing, and heats so common at this period. In pneumonia sleep comes usually at the crisis; but where this has not occurred, he has occasionally seen a hypnotic, such as chloralamide or paraldehyde, turn the scale in favor of the patient. In pleurisy five to ten grains of Dover's powder usually induce sleep, mainly by relieving the pain. A hypodermic injection of morphine may be given with the same object in view. In bronchitis chloral and chloralamide are safe hypnotics, and, as a rule, opiates are to be avoided, as they depress the respiratory centre. The insomnia of heart disease is benefited by cardiac tonics; but in some cases it is necessary to resort to morphine, either by the mouth or, still better, hypodermically. Paraldehyde and chloralamide are most useful in the writer's experience. Ice to the head is recommended by Morison, where the vital forces are not too low or the temperature subnormal. It often produces sleep rapidly, with a more regular cardiac action. In chronic Bright's disease insomnia is occasionally very troublesome. Eliminants, such as aperients, should be tried, and if they do not succeed chloral hydrate may be given; the drug is safer in kidney disease than in heart disease, the reduction of blood pressure being usually more beneficial than otherwise. Morphine and hyoscine subcutaneously injected have been recommended in obstinate cases; but their employment requires great caution. Erythrol tetranitrate, by reducing arterial tension, often acts as a charm even when sedatives fail. In cases of neuralgia, locomotor ataxia, and so forth, some of the synthetic analgetics—phenacetine—are of value. These drugs act also as hypnotics in cases where there is no pain. Calcium chloride is a valuable remedy in the insomnia due to pruritus. But when pain is the causal factor of insomnia, morphine is the best general remedy, and this should be pushed until relief is afforded.

Arecoline.—Clemesha (*Buffalo Medical Journal*, September) says that arecoline is one of the alkaloids found in the areca nut, the seeds of the *Areca catechu*. Taken internally, it causes vomiting and diarrhœa and will be found useful in obstinate constipation from its action on the contractility of the intestine. According to Frohner, arecoline is a sialagogue of the first rank, and is not only comparable to pilocarpine, but even exceeds it in value. Salivation occurs in about five minutes after its injection and attains its maximum in half an hour. Martin employed this drug as a tæniafuge, using sixty grains of the powdered areca nut to obtain the desired effect, and he specially noted the absence of colic. The bromohydrate of arecoline is a white, crystalline, soluble salt, which when applied to the eye in the form of a one-half or one-per-cent. aqueous solution causes contraction of the pupil. A one-half-per-cent. solution dropped into the conjunctival sac causes burning and slight conjunctival congestion. In from three to five minutes the pupil begins to contract and reaches its maximum in from ten to fifteen minutes, accompanied by spasm of the ciliary muscle. The maximum effect remains for a quarter of an hour or so, after which the pupil gradually returns to its normal condition, usually in the course of an hour or two. The tension of the normal eye does not seem to be affected by it, but in cases of glaucoma clinical results show this drug to be the equal of eserine. Bietti observed that it appeared to act more promptly and more energetically than eserine, but that its effect was of shorter duration. It keeps well in solution, retaining its active properties unchanged for an unlimited period.

Rules for the Practice of Intubation without Constant Subsequent Supervision.—Dr. M. E. Escate (*Archives internationales de laryngologie, de rhinologie et d'otologie*, xii, No. 2, 1899; *St. Paul Medical Journal*, September) lays down the following rules under which intubation may be practised without constant subsequent supervision. 1. Intubation may be practised among one's *clientèle* when the patient lives within such a distance that the physician could be called and reach him within two hours, in case of accident. 2. The superiority of intubation over tracheotomy in cases of croup is such that, if we were called into the country to see a case of croup in the period of asphyxia, we would not attempt tracheotomy unless the resisting powers of the patient were such as to guarantee a successful operation. On the other hand, if syncope were imminent, we should perform a provisional intubation; and when the child had rallied somewhat, and been placed in a better condition to continue the fight, the question of a tracheotomy might be discussed. 3. Intubation may be performed whenever the dyspnœa becomes threatening. If called to a case toward night where the dyspnœa is only moderate, we may intubate and thus avoid a sudden and pressing call later on. 4. In the choice of a tube one should act with reference to the apparent rather than the real age of the child. Try to use the tube next larger than the one indicated by the gauge. The tube should glide and not fall into the larynx; if it slips in too easily, take the next larger size. It is an advantage to perceive the cricoid resistance as the tube passes in, for this assures us that it will be held firmly in place. If by reason of œdema we are obliged to use too small a tube, this should be changed for a larger size at the end of twenty-four hours; or one might leave the thread attached. 5. Before introduction, the tube should be coated inside and out with mentholated oil. 6. The patient should be kept in an atmosphere charged with moisture, either with a spray or steam apparatus supplied with some antiseptic solution. 7. When the cough becomes dry and expectoration difficult, threatening an obstruction of the tube, an intralaryngeal injection of several drops of mentholated oil may be made, or, better still, the tube may be changed. 8. One should not leave the patient until satisfied that the tube is well placed. This may be accomplished by causing him to swallow a few drops of liquid from a teaspoon. This at first invariably brings on an attack of coughing. 9. The patient should be visited twice a day. One of the visits should be made as late as possible. 10. The patient should be considered as in a grave condition and the family warned of possible accidents. 11. In case of sudden suffocation from obstruction, a pharyngeal injection may be made. This will bring on an attack of coughing which may bring up the tube, provided that the downward flow has not removed the obstruction. If this does not succeed, the patient should be tipped over the side of the bed with the head hanging very low. This position favors the expulsion of the tube. 12. Extubation should always be done in the morning, as one may find it necessary to reintroduce the tube some hours later. 13. After extubation the physician should remain at least half an hour. A sudden and threatening dyspnœa (spasm or paralysis), such as would render a reintubation necessary, will always appear very shortly after the tube is removed; whereas a slowly increasing dyspnœa (œdema or the persistence of false membranes) would give ample time for the physician to be called to the house. 14. The physician should always be ready to come to the case at once, and should keep the family informed, as far as possible, just where he can be found at any given time.

A Distinct Variety of Hip-joint Disease in Children and Young Persons.—Edmund Owen (*Medico-chirurgical Transactions*, vol. lxxxii; *St. Paul Medical Journal*, September) says that after acknowledging the frequency of tuberculous disease of the hip joint, traumatic synovitis or arthritis, and admitting the rarity of syphilitic and osteo-arthritic inflammation, there still remains a very important group of hip-joint diseases which should be recognized and distinguished from the foregoing diseases, with which they have not infrequently been confused, viz., septic disease of the upper end of the diaphysis of the femur, spreading into the synovial cavity and rapidly involving the hip joint in an acute and devastating suppuration. In children there is no disease more sudden in its onset or disastrous than acute arthritis of the hip originating from septic osteomyelitis. The peculiar anatomy of the parts makes the joint especially prone to be attacked by the micro-organisms of septic myelitis, as well as by the bacilli of tuberculosis. The invasion of the germ follows injury to the limb or any condition which lowers the vitality of the tissue and thereby renders it less capable of resisting the invasion of the staphylococci; thus scarlet fever, measles, typhoid fever, or influenza may forerun the attack of acute suppuration of the hip.

In many cases in which the surgeon opens the hip joint and finds the solid head of the femur detached from the neck and scarcely affected by carious disintegration, the cause of the separation has been septic inflammation just below the junction cartilage. The sound detached epiphysis and its even contour are proofs that the separation occurred early in the course of the disease and before the joint was occupied by granular tissue. This condition is very different from the "worm-eaten," irregular shaped appearance in tuberculous disease.

The symptoms of this acute condition of the joint differ widely from those of the tuberculous form in that the onset is sudden, in a few days the symptoms attaining alarming intensity, the child having all the appearances of sepsis, even at times delirium, temperature as high as 104° F., or showing depression instead of elevation. The low temperature is explained by assuming "that the dose of toxic material elaborated by the growth of micro-organisms may be so intense that the heat-producing centre, like every other area, is profoundly affected; this general depression may end in a fatal collapse." The local symptoms are similar to those of tuberculous disease—that is to say, pain in the hip, though more severe and intensified by motion, and night cries. The onset is decidedly different from the slowly developing symptoms of tuberculous hip-joint disease, where there is in the beginning only a slight limp, a little pain now and then, and gradual increase of stiffness, etc.

The disease might be mistaken for an acute rheumatic affection or for unusually acute symptoms of a tuberculous inflammation, but the importance of early diagnosis is apparent, for upon this depends the prognosis.

The indication for treatment in these cases can not be questioned, nor should we wait until the abscess is demonstrated by fluctuation, but it should be opened up, thoroughly washed out, disinfected with a hot solution of zinc chloride (ten grains to the ounce), and thoroughly drained. If the septic focus is entirely removed the patient is not only completely and promptly restored to comfort, but may make an immediate recovery. A detail of the operations and treatment of cases demonstrates the importance of early distinguishing this acute condition of the hip joint from tuberculous disease of that joint.

Egg Albumen in Illness.—"Sister Elizabeth" (*The Hospital*, August 5th; *Dublin Journal of Medical Science*, September) contributes an instructive article on the free use of raw white of egg in the diets of youngish women suffering from anæmia, gastric ulcer, and dyspeptic troubles of a more or less severe character. The usual proportion is two whites of eggs to one pint of cold water, but if a more concentrated form of nourishment is desired double that number may be used without inconvenience. Beat the whites of the eggs well first, then stir them thoroughly into the water, and strain the mixture through a fine sieve before administration. The mixture is tasteless, and if given alone may be flavored with vanilla, cinnamon, etc., but when given in milk and whey it is better unflavored. From personal observation of the administration of egg water to patients suffering from dyspepsia, gastritis, and gastric ulcer, Sister E. has learned that the results have been a quicker cessation of pain and uneasiness after food, and a steadier march toward convalescence than in those cases where it was not given. After a course of nutrient enemata a teaspoonful or two of albuminous water—*i. e.*, egg water—every hour is a safe and nutritious way of beginning mouth feeding again. In three cases where the patients were having large enemata of ten ounces of peptonized milk every six hours, the addition of the raw white of an egg was made with good results; there was an entire absence of diarrhœa and discomfort—a great gain, as all these cases were fed only by enemata for ten days or a fortnight. In a fourth case the addition of white of egg made no special difference, and the enemata were only moderately retained, but it should be added that the patient was taking two teaspoonfuls of Carlsbad salts every morning, so that a looseness of the bowels was to be expected. In cases of obstinate vomiting egg water is very useful, and will often be retained when nothing else is. Combined with whey, in bad cases of typhoid fever where milk is not tolerated and is speedily vomited in a curdled, undigested condition, it forms a good food for some days, till the use of milk can be resumed. Taken in its concentrated form (four whites of eggs to the pint) it proved of the greatest service to a young woman suffering from a severe attack of typhoid fever in the above-mentioned ward, all sickness stopping after its administration, and the strength being well maintained. Children with diarrhœa and vomiting have benefited by taking it alone and in conjunction with whey, when it has been advisable to stop the use of milk for a time. Stimulants may very well be diluted with albumen water instead of plain water in cases where it is desirable to increase the nutrition. Egg water should not be added to boiling, or even to very hot liquids, as the rapid coagulation of the albumen under heat will at once render it indigestible, and negative the hoped-for good results. It is well known in France as "*eau albumineuse*," and one is inclined to surmise it to be a "good remedy out of fashion," though none the less valuable on that account.

Operations in Gastric Ulcer.—Dr. Leonard A. Bidwell (*American Journal of Medical Sciences*, September) recapitulates as follows the class of cases of gastric ulcer in which an operation should be done: 1. In all cases of perforation at the very earliest possible moment; also in subphrenic abscess. 2. In cases of hæmorrhage (*a*) when there is continual oozing of blood, especially if the stomach is dilated, and (*b*) in cases of repeated severe hæmorrhage. 3. In cases where there are severe pain and vomiting unaffected by treatment, and which are producing progressive emaciation. 4. In cases of dilatation of the stomach from contraction within or from adhesions outside the stomach. The operations to be performed are: In class 1, laparotomy and suture of the ulcer; in class 2, gastrotomy and suture of the ulcer with a purse-string suture, combined with gastro-enterostomy; in class 3, gastro-enterostomy, in order to give physiological rest to the ulcer; and in class 4, either gastro-enterostomy or, if the pylorus is affected, pyloroplasty or pylorectomy. As the surgery of gastric ulcer is a comparatively new subject, the author has had, so to speak, to make a case in its favor. It has been his endeavor to show that no patient ought to be allowed to die either from perforation or from hæmorrhage from a gastric ulcer without a surgical effort being made to save him; that the earlier such effort is made the better the chance of success, and, finally, that surgery offers much hope of success in other cases which resist the art of the physician.

Callosities due to Certain Occupations.—Dr. H. S. Purdon (*Dublin Journal of Medical Science*, September) says that persons employed in certain trades bear on various parts of their bodies the marks of their calling. You can tell a sweep or a flour miller by looking at him when in working clothes; but the cases to which he refers are due, in the first instance, to an excess in the nutrition of the skin, causing excessive growth, followed by a hard, thickened condition of the skin, due to pressure and constant friction—in other words, to a callus or callosity. It is possible, he says, in many instances to tell the occupation of a person from the nature and situation of his callosities. Moreover, from a medico-legal point of view, the identification of a person might thus be satisfactorily settled. These trade "marks" are due to want of moisture in the cuticle, caused by the pressure of the tools or other mechanical appliances used by the worker at his occupation.

A French physician, Dr. Vernois (*De la main des ouvriers et des artisans, au point de vue de l'hygiène et de la médecine légale*), has written on callosities produced in different arts and occupations.

The trades which Dr. Purdon has noticed callosities to be caused by are, first on the right hand—in laundresses, on the entire internal surface of hand; burnishers, on fingers and internal surface of hand; flax hecklers, on index finger of right hand; shoemakers, on fingers of right hand and palm of hand; wood carvers, on radial border of index finger; cabinetmakers, on internal surface of fingers of hand; compositors, on index finger and thumb; carpenters and joiners, on internal surface of hand and fingers; the left hand—locksmiths, on thumb and index finger and thenar eminence; sailors, on palms of both hands; on the forearms—washerwomen, who wash in tubs, on the cubital surface of both forearms; on the thighs—shoemakers on the anterior surface of left thigh; on the knees—slaters, on both knees; on the feet—tailors, over fifth metatarsal bone externally; on the sternum—wheelwrights, over epigastric region. The skin is thickened and in a callous condition in the situations named.

Many other occupations have their characteristic callosities, as the tip of the fingers of the left hand in "'cello" players; three fingers of a drummer, the thighs of a harpist. Gilders of metal, lacemakers, and horsemen (ischiadic region) have special callosities.

The author remarks that when the cause is removed, as by the person ceasing or taking to another occupation, the skin takes on in time a natural condition, and the hypertrophied callous state disappears.

Book Notices.

The Treatment of Pelvic Inflammations through the Vagina. By WILLIAM R. PRYOR, M. D., Professor of Gynæcology, New York Polyclinic; Consulting Surgeon, City (Charity) Hospital; etc. With One Hundred and Ten Illustrations. Philadelphia: W. B. Saunders, 1899. Pp. 248.

EVIDENTLY Dr. Pryor is a man of positive convictions, and in this book he teaches them with the insistence of enthusiasm. We are bound to add that in the main his tenets meet with our approval. His style of writing, while from the grammarian's point of view it leaves something to be desired, is clear, direct, and sententious, bordering at times on the epigrammatic.

"The spirit predominant throughout this book," says the author in his preface, "is that of an aggressive interference." It is largely devoted to operative procedures, and can hardly fail to be of great service to young men who are preparing themselves in surgical gynæcology. At the same time, it may be studied with advantage by the practitioner who has no intention of attempting the operations that he will find described in it, for it abounds in statements which, if somewhat ill arranged, are so strikingly put as inevitably to dwell in the reader's memory.

The author is an advocate of the vaginal route in operative procedures affecting the intraperitoneal pelvic organs, and he makes extensive use of what he terms "the *cul-de-sac* operation." As this is perhaps the most noticeable feature of the practice inculcated, we will paraphrase Dr. Pryor's description of it. The vagina is prepared antiseptically according to minute directions given in the book, "and," adds the author, "if there could be degrees in cleanliness, I would urge the highest here." If the uterus is to be curetted—and he always does that in septic cases—that operation is done first, and the uterus is packed with gauze. The vaginal fold just behind the cervix is then picked up with a forceps, and an incision half an inch long is carried through the mucous membrane only. Through this opening the finger is inserted, about two minutes being consumed in the procedure. When the finger is withdrawn, "quite a quantity of serum escapes." The character of this fluid is to be observed carefully. Then the operator passes his finger behind the broad ligament and palpates the annexa gently. "If the organs are found matted together by lymph, they are liberated with the finger." The digital exploration is made very thoroughly, the object being to open lymph spaces freely, not only that they may discharge into the dressing that is to be applied, but that the antiseptic may be absorbed readily. "Wherever there is an effusion of lymph," says Dr. Pryor, "there is a contest between the germs and the tissues. Into this combat I wish to enter."

After the pelvic contents have been carefully examined and all adherent organs separated, two fingers are passed through the incision and it is enlarged by tearing to a length equal to the width of the cervix. The cavity is then packed with strips of iodoform gauze extending up to the level of the Falloppian tubes, and the vagina also is packed. Within a day after the operation "the bed will be found soaked with the muddy, toxine-laden serum from the pelvis." The patient is apt to feel the loss of so much fluid, and the author sustains her by means of saline injections, strychnine, and alcohol, preferably in the form of champagne given in small and frequent doses. This operation the author finds applicable to many different forms of pelvic disease that do not call for the removal of one or more organs, and when their excision is required it serves well as the initial step.

BOOKS, ETC., RECEIVED.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Volume III. September, 1899. Diseases of the Thorax and its Viscera, including the Heart, Lungs, and Blood-vessels—Diseases of the Skin—Diseases of the Nervous System—Obstetrics. New York and Philadelphia: Lea Brothers & Co., 1899. Pp. vi–17 to 440.

A Treatise on Surgery. By American Authors. For Students and Practitioners of Surgery and Medicine. Edited by Roswell Park, A. M., M. D., Professor of the Principles and Practice of Surgery and of Clinical Surgery in the Medical Department of the University of Buffalo, etc. Condensed Edition, with Revisions. With Six Hundred and Twenty-five Engravings and Thirty-seven Full-page Plates in Colors and Monochrome. New York and Philadelphia: Lea Brothers & Co., 1899. Pp. 5 to 1262.

A Compend of the Practice of Medicine. By Daniel E. Hughes, M. D., Physician-in-chief, Insane Department, Philadelphia Hospital, etc. Sixth Physicians' Edition. Thoroughly revised and enlarged. Including a Section on Mental Diseases and a very Complete Section on Skin Diseases. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. viii–9 to 625. [Price, $2.25.]

Traité de médecine. Deuxième édition. Publiée sous la direction de M. Bouchard, Professeur à la Faculté de médecine de Paris, etc., et M. Brissaud, Professeur à la Faculté de médecine de Paris, etc. Tome III. Par MM. G. Thibierge, A. Gilbert, H. Richardière. Avec figures dans le texte. Paris: Masson et Cie., 1899. Pp. 706.

Transactions of the Medical Association of the State of Missouri at its Forty-second Annual Session, held in Sedalia, Missouri, May 16, 17, and 18, 1899.

Ninth Annual Report of the Eye, Ear, Nose, and Throat Hospital of New Orleans, Louisiana. January 1, 1898, to December 31, 1898.

Hydrophthalmos — A Bibliographic, Clinical, and Pathologic Study. By Walter L. Pyle, M. D., of Philadelphia. [Reprinted from the *Philadelphia Monthly Medical Journal.*]

A New Model of a Small Ophthalmoscope. By Walter L. Pyle, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

Unilateral Albuminuric Retinitis; with a Report of a Case. By Walter L. Pyle, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

Involvement of the Eye and Ear in Cerebro-spinal Meningitis. By William Cheatham, M. D., of Louisville. [Reprinted from the *Philadelphia Medical Journal.*]

Modern Methods in the Production of Vaccine Virus. By Richard Slee, M. D., of Swiftwater, Pennsylvania. [Reprinted from the *Philadelphia Medical Journal.*]

A Case of Diverticulum Œsophagi. By John Zahorsky, M. D., of St. Louis. [Reprinted from the *St. Louis Medical Gazette.*]

A Critical Study of Infant Feeding based on Recent Analyses of Human Milk. By John Zahorsky, M. D. [Reprinted from *Pædiatrics.*]

General Infection by the Diplococcus Intracellularis in an Infant. By John Zahorsky, M. D. [Reprinted from the *Charlotte Medical Journal.*]

The Advance of Medical Education in the United States. By Franklin Staples, M. D., of Winona, Minnesota. [Reprinted from the *Northwestern Lancet.*]

The Limitation of Hysterectomy for Carcinoma of the Uterus. By John H. Rishmiller, M. D., of Minneapolis, Minnesota. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

Empyema of the Gall Bladder. By John E. Summers, Jr., M. D. [Reprinted from the *Western Medical Review.*]

A Study of Migraine. By John Zahorsky, M. D. [Reprinted from the *Medical Review*.]

Asepsis in Country and Private Practice. A New Sterilizer. By Hamilton Fish, M. D., of Ouray, Colorado. [Reprinted from the *Colorado Medical Journal*.]

Étiologie et traitement de certains troubles vocaux. Note sur le traitement des aphonies et des dysphonies nerveuses. Par Paul Olivier. [Extrait de *La Parole*.]

Miscellany.

A Cosmetic Objection to Abdominal Pelvic Surgery.—Dr. T. B. Eastman (*Medical and Surgical Monitor* for August 15th), in a paper on Conservative Pelvic Surgery, says that the advocates of the vaginal route in pelvic surgery maintain that the frequency of hernia consequent upon the suprapubic method affords an argument in favor of the former method; whereas, the fact is that the stuffing of the vaginal opening with gauze results in such a poor union of the parts as to make the protrusion of bowel quite as objectionable as a ventral hernia. According to Cordier, the French object to the disfigurement of the abdomen by a scar, as they are great admirers of a fair complexion and an unblemished skin. He naively remarks, "A suprapubic scar and a low-necked dress may be incompatible in Paris."

The Continuity of the Germ Plasm and Reincarnation.—According to an editorial note in the *Medical Age* for September 10th, Swami Viva Kananda, the Hindu teacher and philosopher, who is so well known to many in America, has been using the Weismann theory of heredity in support of the Vedanta doctrine of reincarnation. He maintains that the notion of the continuity of the germ plasm has come almost to the door of the doctrine of reincarnation. Weismann, in denying the inheritance of acquired characteristics, regards variations as a result of natural selection, the influence of which has reacted upon the germ plasm. Vedanta teaches that the germ plasm is a subtle reincarnating body containing potentially all the experiences, characters, and desires possessed by the individual in a previous form of life. It is not surprising, says the *Age*, that a physiology which has so many elements of the transcendental in it should approach closely to the tenets of a philosophy so largely metempirical.

To Harden Plaster of Paris.—According to the *Medical News* for September 23d, a hardening fluid, which will be useful to surgeons for making plaster splints last longer, and also for protecting them against moisture, has been granted a patent in Germany. The liquid may be mixed with the plaster or applied subsequently to the splints. The solution is prepared by dissolving boric acid in warm water and adding thereto sufficient ammonia to form the borate, which remains in the solution. The manner of using the solution is thus described: The saturation of the gypsum or painting of the plaster of Paris is carried out in the cold. The objects are subsequently rinsed off and dried. The surface becomes very hard after two days and insoluble in water, while the induration in the interior advances more slowly.

A Canine Maternal Impression.—Mr. John Booth, house surgeon to the South Charitable Infirmary and County Hospital, Cork (*British Medical Journal*, September 16th), is responsible for the following: "A very interesting occurrence has lately come under my notice. A very handsome thoroughbred fox terrier bitch, belonging to a friend of mine, strayed, and was missing for a day or two, and when found it was discovered that her right fore leg was broken. The limb was set under chloroform with the help of the Röntgen rays, and the dog made a good recovery. Several weeks afterward she gave birth to a puppy whose right fore leg—that is, corresponding to the mother's broken limb—was ill developed and was minus the paw. The literature is full of cases of maternal impressions in the human family, but this contribution from the lower creation is, so far as I am aware, unique."

Another Version of why he had Three Lanterns.—Dr. Albert S. Ashmead gives the following version of the story published in our issue for September 9th. It is quoted from a Japanese paper called *Kefu* (Laugh-town): The head devil of hell once became curious to know whether there existed really a doctor who had never killed a patient. He sent an emissary to the earth to make the necessary inquiries; for he intended (a singular idea in a devil) to reward munificently such an individual if he should be found. The emissary went his way, and found that every doctor's gate was literally occupied and besieged by ghosts. He understood at once what that meant, as will the reader. Finally, he came to the door of a physician where only a score of phantoms were lingering. He was surprised, and entered at once to ask the doctor for an explanation of the scarcity of shades. "Why," answered the doctor, "I have practised only since yesterday."

Here is another Japanese story about doctors, taken from the *Kaikichio*—that is, *Stories to make you Laugh with Wide-open Mouth:* A robber broke into a doctor's house at night. The doctor awoke, the robber drew his sword. Instantly the doctor seized a spoon and fearlessly went for the invader, whereon the latter dropped his weapon and ran away as fast as he could. When he joined his accomplice, who was waiting for him, he explained what had happened. "Why," said the other, "you had a well-sharpened sword." "Oh, yes," replied the first, "but the doctor had his spoon, which is a far more formidable weapon, and has killed more people."

Death of a Canine Philanthropist.—From the London letter of the *American Practitioner and News* for August 1st we learn that "Leo," the dog belonging to the Women and Children's Hospital, is no more, and has been succeeded in his benevolent exertions by his eldest son. Some time ago the dog won the proud distinction of carrying off the cup offered by the Prince of Wales to the dog who collected the largest amount for a hospital. He was always to be seen in the streets with his collecting box strung round his neck, and during his life he collected upward of one thousand pounds.

Epistaxis Caused by a Leech.—Dr. A. J. Manasseh (*Lancet*, September 16th), writing from Beyrout, says that a young child was recently brought to him suffering from nasal hæmorrhage. His mother said that the bleeding, which was from one nostril, had been continuous, off and on, for three days. The blood was dark in color and soon clotted. No blood appeared through the mouth. The child looked anæmic, but there was no indication of any constitutional cause for the hæmorrhage. Blood was seen to be blocking the right nasal opening, and on looking into the mouth the end of a leech was found hanging over the posterior wall of the pharynx and undoubtedly it was clinging to the posterior nares. The leech was at once detached and removed by the forceps and the bleeding stopped immediately. Several cases of this kind have been noticed of late in this district (Beyrout), the leech being conveyed to the individual by drinking from springs. The above may be of interest to those who work in a district where leeches are present in the water.

American Dentists Practising Abroad should be careful to investigate the laws of the country as regards titles. According to the *Journal of the American Medical Association* for September 23d, the sign "Dr. Sylvester, American Dentist," at the entrance to his office in a French city resulted in the condemnation of the dentist on two indictments: 1. For practising under a pseudonym, as his name was in reality Sylvester Baumgartner. 2. For neglecting to append the source of his medical diploma, the court asserting that dentistry being a branch of medicine, the derivation of the title of "Dr." must be stated on the sign to conform to the French law in respect to aliens practising in France.

The Commercial and the Professional Spirit.—Dr. G. B. Jacobi (*British Medical Journal*, September 16th), writing on the commercial spirit among English medical practitioners, especially with reference to practitioners dispensing their own medicines, says: "As a contrast to this commercial spirit I should like to mention the professional sensitiveness of the Swedish doctors, who do not even send in bills for their attendance. Most Swedish families send their doctor a check once a year, whether he has been in attendance or not during the year. The amount varies according to their means. The doctor does not send a receipt, but simply his card, 'with many thanks and wishes for a happy new year.' None of the commercial transactions mentioned above are known, neither do Swedish medical men act as midwives. All have to pass the state examination, and have spent about ten years at the university. Their social position is as good as that of any other profession, the law, the army, etc."

The New York Academy of Medicine.—At the last regular meeting, on Thursday evening, October 5th, the special order was a paper by Dr. Virgil P. Gibney entitled Certain Aspects of Bone and Joint Diseases of Interest to the General Practitioner.

At the next meeting of the Section in Pædiatrics, on Thursday evening, October 12th, Dr. Walter Lester Carr will present a case of scurvy; Dr. Helen Knight will report orthopædic cases; Dr. A. Jacobi will read a paper on Antipyresis in the Febrile Disorders of Infancy and Childhood—Antipyretic Drugs, their Use and Abuse in the Treatment of Fever; and Dr. Simon Baruch will read one entitled Hydriatic Measures in the Management of the Febrile Disorders of Infancy and Childhood, with Practical Demonstrations of the Various Hydriatic Procedures.

The Elixir of Garus: Answer to Correspondent No. 470.—We quote the following from *Foster's Encyclopædic Medical Dictionary*, vol. ii, p. 1424, *sub capite* "Elixir": "Elixir de Garus [Fr. Cod.], Latin, *elixirium Gari.* An elixir made by first macerating for two days one part of *Crocus sativus* and two parts of *Vanilla planifolia* in 2,000 of *alcoolat de Garus* and filtering; next by infusing forty parts of *Adiantum pedatum* in 1,000 of boiling distilled water, straining with expression, and adding 400 of orange-flower water and 2,000 of white sugar to form a syrup; then mixing this with the maceration of saffron and vanilla, and filtering." Any French pharmacist would probably make it.

Mortality Statistics in the Twelfth Census.—We have received the following from the Department of the Interior at Washington:

"Physicians and students of mortality statistics will be interested in learning of the work now being accomplished by the chief statistician of vital statistics of the United States Census, by the authority of the director, Hon. William R. Merriam. It is a practical effort, necessarily of limited scope, to secure the adoption of a uniform certificate for the return of deaths and looking toward the establishment of a common national system of collection of vital statistics for the purpose, primarily, of the census tables and publications.

"Correspondence has been had by the chief statistician, Mr. William A. King, with the officers in charge of mortality registration in the States employing such a system, and in the cities having a population of five thousand and more at the last census which also collect and register death returns. Complete and accurate information of the different methods in vogue has been obtained, and it was found that there is much unnecessary and objectionable variation, considered from the census point of view, in the form of official returns.

"Having no power to compel cooperative action, and hampered by want of time in which to carry out the whole project, nevertheless the census office undertook to secure the modification or amplification of the death certificates so as to have them include the items necessary to obtain census data. A model return form was prepared and submitted, with explanatory correspondence, to each registration office or officer controlling the preparation of the State or local forms.

"The result has been more important and gratifying than even the census office expected, as not only have the items in the specimen form been very generally adopted, but the registration officers have abolished many practically obsolete local variations in their certificates, and the latter have been made to conform to one standard more nearly than ever before.

"The promptness and willingness displayed by the State and local officers in complying with the request of the directory has been surprising as well as gratifying. The benefit that will result to the census office and to science from this first step toward the goal of national uniformity is incalculable, but it will be seen readily that the study of the natural law of the growth of the population is made easier and more certain.

"The director of the census confidently expects that physicians everywhere will appreciate the desirability of the new order of things, and that they will earnestly and actively cooperate in securing prompt and accurate mortality returns of the uniform character required by congress and sought for by statisticians. He recognizes the fact that failure on the part of physicians to give vitality to the common standard by carefully reporting the items that may be new to their certificate will be fatal to the end in view."

THE NEW YORK MEDICAL JOURNAL, OCTOBER 14, 1899.

Original Communications.

A PLEA FOR THE MORE FREQUENT DIGITAL EXPLORATION OF THE UTERINE CAVITY,

AND THE HISTOLOGICAL STUDY OF UTERINE SCRAPINGS AS AN AID TO THE DIAGNOSIS OF DISEASES OF THE UTERUS.*

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NOTWITHSTANDING the fact that the diagnostic procedures suggested by the title of this paper have been for years in active, and one might almost say in routine, use in the best clinics of Europe, especially those of Germany and Austria, in this country, except in a few instances, they do not seem to have been sufficiently appreciated nor to have been at all extensively employed. Our methods of exact diagnosis in all departments of medicine are becoming each year more satisfactory and complete, and as a rule Americans are keeping abreast with the times. But while this is especially true of uterine pathology, it has, I am sure, been the unhappy experience of all of us to repeatedly observe cases of even so common a malady as cancer of the uterus, the nature of which had remained unsuspected by the medical attendant while in the operative stage, and which had been sent to the hospital only after such ravages had been made by the disease as to render all operative treatment useless. These and similar observations would seem to suggest the great importance of more extensive discussion, and of a broader appreciation of our present knowledge bearing on the subject of exact methods in gynæcological diagnosis.

My main object, then, in bringing before your notice the methods in daily use in the German clinics for the digital exploration of the uterine cavity, which, so far as I have been able to discover, has been but rarely employed here at home in the case of the non-puerperal uterus, except by Banga (1), of Chicago, and also in directing your attention to some recent improvements in the technique in common use for the securing, staining, and study of the uterine mucosa, is not to instruct but rather to stimulate among the members of this society a discussion bearing on this field of pathology. I shall also cite a few cases which have come under my notice, which serve to demonstrate with what comparative simplicity and certainty the present percentage of correctly diagnosticated cases may be augmented to the material credit and comfort of the profession and the saving of many lives.

The first portion of my paper, therefore, will deal with the digital exploration of the uterine cavity.

The thorough examination of the cavity of the puerperal uterus is a comparatively easy procedure on account of the patency of the cervix. As a rule, no anæsthetic is required, and provided that surgical cleanliness is observed the procedure is unattended by risk of any kind. In dealing, however, with the non-puerperal uterus, we usually find a very different state of affairs, and before the finger or the curette can be introduced into the uterine cavity it is necessary to employ artificial means in order to widen the cervical canal. It is true that an intra-uterine polypus may occasionally have been pushed through the internal os by the contraction of the uterine muscle and thus have laid the cervical canal widely open, but such instances are rare. It will be convenient, therefore, to speak first of the different methods to render the canal patent.

Dilatation of the cervical canal is effected in various ways, but two main procedures may be defined: 1. The rapid method. 2. The slow or gradual method. In this country the first of these methods is in vogue, and rapid instrumental dilatation with the original Goodell-Ellenger instrument, or some modification of it, under full aseptic conditions is generally employed. This subject is so well described by Dr. Kelly (2) in his recent work, in which he refers at length to the dangers and contraindications for the procedure, that I shall refrain from further mention of it here. It is rather to the gradual dilatation with the sterile laminaria tent and to the subsequent bimanual touch, with the exploring finger in the cavity of the uterus, to which I desire especially to call your attention. I first saw this method in active operation in Professor Leopold's clinic in Dresden. In brief the procedure is as follows:

Aseptic laminaria tents are necessary. Leopold secures these by boiling tents of selected sizes, each armed with a silk loop, for five minutes in a five-per-cent. carbolic-acid solution, after which they are allowed to remain in a cold two-per-cent. solution of carbolic acid for five minutes, being finally dried between sterile gauze, when they shrink and are ready for use. Sänger, of Leipsic, after treating them in a similar manner, keeps them in ten-per-cent. iodoform-ether solution.

The vulva and vagina having been rendered aseptic with the same precautions as are employed before a major operation on these parts, the cervix is caught and steadied by a bullet forceps, and the cervical canal is wiped dry with pledgets of aseptic gauze. A tent is then chosen of the largest size which can be passed into the canal and well beyond the internal os without causing undue pain. After this has been inserted up to the fundus, a tampon is placed in the vagina to hold the tent in place and the patient is kept quietly in bed for twenty-four hours. Small doses of opium or morphine are occasionally necessary to relieve pain. The temperature is taken every four hours, and if there is any fever the tampon and tent are immediately withdrawn and an antiseptic douche is given. After twenty-four hours the patient is taken to the operating room and the tent, having been withdrawn, and the vulva and vagina having been thoroughly sterilized again, if the cervix will admit, the sterilized index or middle finger of the left hand is at once introduced into the uterus, the fundus being grasped firmly by the right hand. If the cervix will not yet admit the examining finger, it is further dilated by the cautious use of Hegar's dilators, beginning with one easily admitted and increasing by successive sizes, each being left in position until the "bite" on it by the cervical ring has relaxed. Immediately after the withdrawal of the last dilator, which usually measures twenty or twenty-two millimetres in diameter, the examining finger is introduced.

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* Read before the Medical Society of Saratoga Springs, N. Y., February 24, 1899, and by title at the October meeting of the New York State Medical Association, New York city.

The finger once inside the uterus, its cavity is systematically explored, and any foreign substance, new growth, polyp, remnants of placenta, or changes of any kind in the mucosa or walls of the uterus are at once felt. Their position having been accurately located, they can be readily and completely removed by means of suitable forceps or the curette.

Matthews Duncan first formulated the principle that contraction of the body of the uterus results in dilatation of the cervix, this dilatation being accompanied by marked softening of the cervical tissues. The converse of this is true—namely, that dilatation of the cervix excites contraction of the uterine muscle proper. The slow method aims at dilating the cervix by exciting uterine contractions; with the rapid method, on the other hand, we see an instance of uterine contractions excited through forcible dilatation of the cervix. This latter point is of the first importance, since it provides for the physiological control of hæmorrhage after curetting. In the case of the tent a marked increase in size from absorption of fluid occurs, and this no doubt to some extent is a factor in bringing about the dilatation, but its chief mode of action is that of a foreign body which excites reflexly uterine contractions.

Indications.—Among the indications for digital exploration of the uterus are: 1. Hæmorrhage associated with retained products of conception. In routine gynæcological work the bulk of the cases are those of incomplete miscarriage; often only a tiny piece of placental tissue may be discovered, but it is remarkable what an extensive hæmorrhage this may give rise to. At other times the microscope shows a piece of retained decidual tissue to have been the exciting cause. Under this subdivision should also be placed the rare instances of malignant growths of the chorionic epithelium, or deciduoma malignum, which, as Williams (5) has pointed out, might be more frequently found in this country if more diligently searched for. Again, we have those not infrequent cases of death and retention of the entire fœtus associated with a slightly enlarged soft uterus and bloody or purulent discharge, or possibly with no discharge whatever, but a rapid decline of the general health due to sapræmia. These are troublesome cases at best, and a digital exploration of the uterus is of great value in that it enables us not only to recognize the condition, but also to treat it at the same time.

2. Next in importance come those cases of persistent bleeding associated with some enlargement of the uterus, but not related to pregnancy—the cases, in short, in which one suspects the presence of an intra-uterine polyp. These patients complain of more or less constant hæmorrhages, more marked at the menstrual periods, often associated with severe spasmodic pain in the abdomen. On examination the external os is found more or less patulous. In these cases the cavity of the uterus should be explored with the finger and the polyp removed by means of a suitably constructed forceps. With the curette alone one will often fail entirely to detect these new growths.

3. Submucous and intramural myomata may be detected in a similar manner.

4. Finally, there are those cases in which we meet with an offensive or purulent as well as sanguinary discharge which so frequently accompanies adeno-carcinoma of the body of the uterus, a sloughing submucous myoma or sarcoma of the uterus. In cases of suspected tuberculosis of the endometrium and foreign bodies in the cavity of the uterus digital exploration is also indicated.

Contraindications.—The objection that this manipulation is dangerous, owing to its liability to produce septic infection, would certainly at first sight appear plausible. I must confess that the danger appeared to some of us a very real one, especially in connection with cases already septic from retained products of conception and other infective material. On mention of our fears to Professor Leopold he assured us that he had used the procedure in many hundreds of cases, septic and otherwise, and had experienced no bad results. He explained this freedom from infection on the theory that the tent seldom produces complete occlusion of the canal and that it is always expelled from the uterus within ten or twelve hours by muscular contractions, so that in any case a partial obstruction during this brief period could hardly materially increase or render general a local infection already present. We noticed that the tents were generally found lying in the vagina twenty-four hours after their insertion up to the fundus of the uterus, and that the odor of decomposing organic material was often decidedly offensive. Still the patient's condition seemed good, and those we saw recovered promptly. After seeing the digital exploration of the uterine cavity in daily use, extending over a period of many weeks, in the Dresden clinic and in those of Professor Sänger (3) and Professor Zweifel, of Leipsic, who, as well as Leopold, are in the habit of employing it as a preliminary routine measure in all cases of curetting, I am convinced that in selected cases it is one of the most valuable diagnostic resources at the command of the gynæcologist. I may perhaps be allowed to cite one or two cases which especially impressed us as illustrating its value:

Case I.—A woman, aged forty years, multipara, presented herself at the Frauenklinik in Dresden with the history of more or less constant uterine hæmorrhage extending over a period of many months. She had been curetted in the usual manner some seven or eight times, but with only temporary relief from the hæmorrhages, which had kept her in a feeble and anæmic condition. On introducing his finger in the manner described above, Professor Leopold at once detected a polypus attached by a narrow pedicle to the posterior wall near the fundus, which had evaded the curette, but was easily removed with the forceps. The patient made a quick recovery. Leopold took occasion to cite a case which he had seen of a placental polyp which had resisted twelve ordinary curettings, but was finally recognized by the adoption of this simple procedure. Many similar cases are recorded in the literature.

Case II.—On one occasion I saw a woman suffering from profuse menorrhagia and metrorrhagia subjected to an abdominal hysterectomy. The diagnosis of a malignant new growth of the body of the uterus had been made, but when the organ was removed and laid open only a polypus the size of a large olive, attached by a narrow pedicle to the fundus, was found to account for the hæmorrhages. To be sure, in this case the tissues obtained by curetting had been accidentally confused with those from a case of carcinoma of the uterus. This case, then, illustrated not only the great danger of allowing a bottle into which curettings have been received to remain, even for a moment, unlabeled, but further demonstrates the value of a digital exploration of the uterine cavity when other means of diagnosis yield, as they would have done in this instance, either negative or uncertain results.

From these observations it seems reasonable to conclude that while the routine employment of the laminaria tent and digital exploration of the uterine cavity in every case demanding curetting, as insisted upon by Leopold, Sänger, Zweifel, and others in Germany, may be unnecessary, since the ordinary operation of instrumental dilatation and curetting, as used in the clinics of America, has proved effectual in the majority of cases, on the other hand, it should always be employed in every obscure or doubtful case of intrauterine disease, especially where the tissues obtained with the curette fail to render the diagnosis clear, and the symptoms persist after the first curetting.

THE HISTOLOGICAL STUDY OF UTERINE SCRAPINGS.

I shall not venture on this occasion to enter upon even a brief *résumé* of this portion of our subject, which has been so substantially and recently enriched by the writings of Winter, Ruge, A. Amann, Jr., Klein, and many others in Germany, and by the valuable papers of Hunter Robb, Cullen, Coe, Joseph Wiener, Jr., Gaylord, Williams, and others in America, but shall content myself with merely directing your attention to some recent advances in the accepted methods of the procuring, preparation, and microscopical study of curettings and excised portions of tissue for diagnostic purposes.

Method of Obtaining Uterine Mucosa.—Dr. Albert Amann, Jr., of München (6), insists upon the advantage of obtaining as large pieces of mucosa as possible for microscopical examination. In order to secure these, he advises the use of a medium-sized slightly dulled curette. After dilatation of the cervix under full aseptic conditions this instrument is introduced to the fundus of the uterus and is completely withdrawn in one stroke with firm, steady pressure, the mucosa brought away being deposited on a bit of gauze. After the blood and mucus have been allowed to separate from the specimen, without being handled, it is dropped into a wide-mouthed bottle containing a ten-per-cent. formalin solution. These strokes with the curette are repeated in a systematic manner until the uterine cavity is completely denuded of its mucosa, after which it is swabbed out with the tincture of the chloride of iron. This is done for the purpose of cauterizing any mucosa accidentally left, as well as of arresting hæmorrhage, a precaution which has not been found necessary in the clinics of this country. The advantage of having good-sized pieces of tissue to work with is readily appreciated by those who have toiled with the minute bits obtained with the small, sharp curette, which is made to describe a great number and variety of short strokes, which is not withdrawn from the uterus until the operation is completed, and reduces the mucosa to inconveniently small shreds and *débris* with which it is often impossible to do satisfactory work.

The bottle in which the specimens have been received should at once be labeled with the name of patient and the date. If there is no urgent demand for an immediate diagnosis, the specimens may be received in alcohol or Müller's fluid until it may be convenient to harden by the celloidin, paraffin, or other methods. On the other hand, if there is need of an immediate histological report, as in the course of an operation, in order to determine the necessity of radical procedures while the patient is still under the anæsthetic for the preliminary curetting or for the excision of tissue for diagnostic purposes, the whole process of hardening, cutting sections, staining, and arriving at a microscopical diagnosis may be completed in fifteen minutes. This was shown by Cullen (7), of the Johns Hopkins Hospital, who first published his method of making permanent specimens from frozen sections by the use of formalin in April, 1895. He describes under Process I the following steps: The specimen is received in normal salt solution and placed on the block of a microtome and frozen by means of a jet of carbonic-acid gas.

a. Place frozen section in five-per-cent. aqueous solution of formalin for three to five minutes.

b. Leave in fifty-per-cent. alcohol three minutes.

c. In absolute alcohol a minute.

d. Wash in water.

e. Stain in hæmatoxylin for two minutes.

f. Decolorize in acid alcohol.

g. Rinse in water.

h. Stain in eosin.

i. Transfer to ninety-five-per-cent. alcohol.

j. Pass through alcohol, then through creosote or oil of cloves, and mount in Canada balsam.

Process II is the same except that the pieces of tissue are left in a ten-per-cent. solution of formalin for at least two hours before sections are cut; they are then treated as in Process I.

It is true that Cullen, as stated in his article, has often gone through these steps and announced his histological findings in fifteen minutes, but it is difficult for even a rapid and skilled pathologist to reach satisfactory results in so short a time, and we have always felt that a simpler and shorter method was desirable. While visiting Professor Landau's clinic in Berlin in May of this year Dr. Pick, in charge of the laboratory, demonstrated to us the following method, which gives distinct, well-stained specimens. The manipulations can be comfortably made and a diagnosis reached, as a rule, in from twelve to fifteen minutes. Pick's (8) method is as follows:

a. Remove tissues from salt solution, place on ether microtome, freeze slowly, and cut.

b. Place in four-per-cent. formalin solution a quarter of a minute.

c. Remove to formalin-carmin solution one minute.

d. Transfer to water a quarter of a minute.

e. To eighty-per-cent. alcohol a quarter of a minute and remove air bubbles.

f. To one-hundred-per-cent. alcohol a quarter of a minute.

g. To mixture of two parts xylol, one part pure carbolic acid.

h. Place on slide and mount in Canada balsam.

There are two features in Pick's method which shorten and simplify the process of examining tissues.

1. The ether spray freezing microtome made by E. Leitz and known as Jung's *Hobel* (carpenter's plane), described by P. Schieffdecker (12). It is simple, portable, is easily adjusted to any table, cuts good sections with automatic adjustment, and is cheap. This is certainly a very perfect apparatus and does away with the expensive and cumbersome tank of carbonic-acid gas.

2. Considerable time is gained by mixing the formalin and carmin stain; thus the specimens are hardened and stained at the same time. Although no counter-stain is used in this process, still the sections clear up well, and for ordinary diagnostic purposes, where the saving of time is urgently desired, this method has decided advantages, and is to be commended.

Cullen, in a later article in the *Johns Hopkins Hospital Bulletin* for May, 1897, states, in a footnote, that he can not recommend Pick's modification of his method, owing to the poor definition obtained, and has accordingly abandoned it. This may perhaps be due to a difference in the carmin stain or in the method of preparing it, as the definition secured by Pick was certainly sufficiently clear for diagnostic purposes. Where the element of time can be eliminated from the problem, we believe the slower alcohol and celloidin, or Cullen's slower formalin method with the double stain of hæmatoxylin and eosin, will secure the best permanent sections.

In studying the sections and in recording the results a systematic scheme should be followed. The one suggested by Hunter Robb (9), in a recent elaborate and valuable paper on this subject, seems to be very advantageous. Robb directs attention to the following points:

1. The superficial epithelium—*i. e.*, the layer of epithelium lining the cavity of the uterus. (*a*) Is surface smooth or not? (*b*) Character of cells. (*c*) Single layer or multiple layers?

2. Utricular glands: Course—straight, waving, or corkscrew. Length. Size. Lumina. Shape. Glandular epithelium: Character of cells. Single layer or multiple layers.

3. Stroma: Size of cells. Physical characteristics. Different sorts of cells: Lymphoid, oval or round, fusiform or spindle. Peculiarities in arrangement of cells.

4. Vessels: Those near the surface and those more deeply situated.

5. Muscular tissue: If present or not, and if any peculiarities noted.

6. Histological diagnosis.

7. Notes or remarks.

These histological findings should be made to supplement a carefully taken clinical history in each case.

A discussion of the many different points to be considered in the diagnosis of the specimens is impossible in the present paper, and I will content myself with a brief citation of two cases to illustrate the advantages of the anatomical as compared with the purely clinical methods of diagnosis.

The first case occurred in the Johns Hopkins Hospital and is as follows:

Case I.—Mrs. G., aged seventy years, was admitted to Dr. Kelly's service on October 24, 1896. She had been married fifty years, mother of four children, youngest thirty-seven years old. No difficulty in confinements; three miscarriages during early married life. No ill effects. Menstruation began at sixteen years, four-weekly type; four to six days, no pain; regular until menopause at forty-nine, which was fully established at fifty-one. No vaginal discharge.

Family and personal history: Mother and two aunts died of cancer. Except for slight attacks of rheumatism, patient has always been strong and healthy.

Present illness began July 15, 1896, with slight vaginal discharge of bright-red blood. This disappeared, and she noticed nothing more for six weeks.

Since then has noticed it occasionally. No pain. Comes on without apparent cause and frequently during sleep.

General Condition.—Robust, strong, and healthy looking woman; weight, two hundred and two pounds; all functions perfect; does not take medicine of any kind. Heart, lungs, and urine negative.

On October 26th patient was placed under ether, and a considerable amount of friable material was removed from the cavity of the uterus with the curette. Upon examination of this tissue by the formalin method the diagnosis of adeno-carcinoma of the body of the uterus was made.

Owing to the small size of the uterus and apparent freedom of the surrounding tissues from any involvement in the disease, together with the unusual thickness of the abdomen, Dr. Kelly decided to remove the uterus by the vaginal route. This was done in the usual manner; silk ligatures, cut long, being used and some catgut ligatures being subsequently applied to bleeding points. The whole operation occupied about an hour.

The convalescence was uninterrupted, there being no suppuration and patient was discharged in four weeks with every prospect of a permanent cure, as on laying open the uterus the cancer was found to be practically confined to the mucosa.

Case II occurred in the practice of Dr. Klein, of Munich, Germany, in whose laboratory I was working at the time.*

Mrs. G., peasant woman, forty-three years old, xiii-para. Until June, 1897, menses were of four-weekly type. During June and July, 1897, no menses appeared. From the beginning of August, 1897, until April 19, 1898, she suffered with almost uninterrupted bleeding. Condition on April 19, 1898: Extremely anæmic woman, greatly weakened; external os uteri somewhat patulous; internal os closed; corpus uteri anteverted, somewhat enlarged, and soft. Dark blood is discharged from the uterus in moderate quantity.

On April 20, 1898, patient was curetted without anæsthesia. Some soft reddish-yellow fragments the size of peas and portions of thickened mucous membrane were found. After the curetting the hæmorrhage ceased immediately and permanently.

The soft fragments show microscopically partly inflamed uterine mucosa, some well-preserved chorionic villi, and smaller pieces of decidua. The chorionic villi show remarkable vitality, taking the stain well, without fœtal vessels, the syncytium being formed partly of one layer and partly of two layers of cells. The decidua is pale, as usual, not taking the stain well; but the decidual cells are well preserved. The chorionic villi and decidua had therefore been preserved in the uterus for eight months and a half as a placental polyp, retaining their vitality unimpaired.

Dr. Klein (10) regarded this retention of vitality on the part of the chorionic villi for eight months and a half, the time which had elapsed since an undoubted miscarriage, as not only very interesting but extremely rare. Robb, however, reports a similar case in which the villi had retained their staining qualities very well nine months after the miscarriage.

I have selected these two cases from many similar ones because they show with great clearness the utter impossibility of arriving at an immediate and exact diagnosis by the purely clinical methods without a knowledge of the histological conditions present. In both these cases the subjective and objective symptoms were almost diametrically opposite. Thus Case I presented but one symptom—namely, slight bloody vaginal discharge without pain twenty years after the menopause. Her general health was perfect, and had it not been for the intelligent recognition of danger in this symptom by her physician, who had sent her to the hospital for diagnosis and treatment almost against her will, she would soon have joined the list of incurables, as the patient considered it absurd for one so healthy as herself to be sent to a hospital for treatment.

Case II, on the other hand, presented many symptoms pointing to malignant disease—long-continued hæmorrhages from the uterus, with the organ somewhat enlarged and slightly softened in consistence. The patient was in an extremely anæmic, almost cachectic, weakened condition. And yet these symptoms, which clinically so strongly suggested malignancy, were proved to be comparatively unimportant by the histological examination.

REMARKS.—Dr. Wiener (11), in a recent article, has gone into a careful consideration of the difficulties to be met and overcome in order to achieve successful results in this specialized branch of pathology. I think we must all fully agree with him that the gynæcologist should acquire the necessary experience himself, as is done in the German clinics, and not depend upon the general pathologists to make a diagnosis from specimens, which are often meagre, and from short, incomplete histories. The technique as outlined above is, as Dr. Pick states, not much more difficult than an ordinary uranalysis, and can be carried out in the office of the gynæcologist as well as in the laboratory. Why, then, should not this method of diagnosis be more generally recognized and employed? In obscure and specially difficult cases which require special technical knowledge and experience the specimens can easily be placed in a morphine bottle containing a ten-per-cent. solution of formalin and sent by mail or express to some well-equipped gynæcological pathologist, of whom we have many in our own country.

In conclusion, I desire to thank Dr. Kelly for permission to report Case I, and to express my obligation to Dr. Klein, of Munich, for the notes of Case II, and also for much encouragement and assistance in the practical study of this subject.

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* The microscopical findings in this case were demonstrated by Dr. Klein before the Gynæcological Society of Munich, in April, 1898, and will be reported by him later.

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SEPTIC THROMBO-PHLEBITIS
AS A
COMPLICATION OF PERITONSILLAR ABSCESS.

*REPORT OF TWO CASES.**

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Peritonsillar abscess or quinsy is a common throat affection, and the almost universally favorable prognosis given by the physician in the treatment of this disease is my excuse for presenting the subject for our discussion on this occasion. In fact, so great a medical authority as Trousseau has said, "In my lengthy medical career I have never seen a death from this affection; this fact sufficiently indicates its slight gravity."

While the natural tendency is for the disease to run a favorable course, my personal experience, together with a study of the literature on the subject, has impressed me with the possible fatal complications that may arise in any case, and with the necessity of a more guarded prognosis.

Bosworth has given us by far the most complete account of the rare complications of this disease. He inclines to the belief that the most frequent fatal complication is rupture of the abscess during sleep, the pus entering the air-passages and producing death by asphyxia. The literature, however, would indicate that hæmorrhage is the more common fatal complication, and that septic thrombosis, or thrombo-phlebitis, is exceedingly rare. It is to this latter condition that I wish to call your special attention.

It is only within the last decade that pathology in medicine has received a proper recognition. The intelligent physician of to-day no longer speaks of pyæmia as a disease *per se,* but rather as the result of a well-recognized pathological condition. This being true, I doubt not that many fatal cases of pneumonia accompanying septic processes in other portions of the body were considered simply incidental, regardless of cause and effect.

It is the exception rather than the rule for the specialist to be called upon to treat a case of peritonsillar abscess or quinsy. This disease by custom belongs almost exclusively to the domain of the general practitioner of medicine, where the treatment, if instituted at all, is purely symptomatic; surgical interference is condemned as extra-hazardous; medical, as inefficient; and the patient is usually dismissed with the comforting remark that "the abscess will rupture in a few days, when his suffering will be at an end." This is usually true, but occasionally a pneumonia intervenes, when the physician is again summoned, and the disease then receives the full measure of his attention and skill. The patient dies, and the death certificate reads, "Death from pneumonia." The peritonsillar abscess has been entirely overlooked as an ætiological factor in the death of the patient.

This, you may say with Trousseau, does not occur once in the lifetime of a physician. But when I tell you I have to report at this meeting two fatal cases of septic thrombo-phlebitis as a result of peritonsillar abscess, and both occurring within a period of four months of each other, you will doubtless agree with me that the usual favorable prognosis given in this disease should be distinctly qualified.

The evolution of sinus thrombosis, cerebral and cerebellar abscess, as a result of mastoid suppuration has been slow but sure. To-day the aurist and neurologist are fully awake to the possibilities of such complications, and, judging from the number of published cases during the last few years, the condition is not of infrequent occurrence.

An infective process in any portion of the body is liable to produce a general infection. This takes place either through the lymph or blood channels. When the infection is conveyed through the blood channels we generally have to deal primarily with a thrombosis or thrombo-phlebitis. The thrombus is usually found in the veins, in close proximity to the seat of the primary infection, though not necessarily so.

The conditions favorable to thrombosis are alterations in the blood current, change in the vessel walls, and alterations in the blood itself. Any one or all of these conditions may be present in a given case.

The slowing of the blood current from narrowing of the vessel by pressure from the inflammatory products without predisposes to the formation of thrombi.

The infection may be conveyed either along the lumen of the vessel or by contiguity of tissue through the inflammatory process. The walls of the vessel become inflamed and thickened, the blood coagulates and adheres to the vessel walls, and the thrombus is thus established. The clot, when infective, does not become absorbed but soon disintegrates, producing a fluid of a greenish-brown color and abounding in living organisms. These may enter the general circulation by the disintegrated particles being swept on in the blood current, or they may spread through the walls of the vein into the neighboring parts and be again taken up by the congested vessels. Metastatic abscesses are then formed wherever the infected material finds lodgment. The lungs are most frequently involved owing to the intricate arrangement of the pulmonary circulation. Infarctions form and give rise to septic pneumonia and, not infrequently, to gangrene of the lungs. The liver, kidneys, spleen, brain, in fact any portion of the body, may become the seat of a secondary infective process.

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* Read before the American Laryngological Association at its twenty-first annual congress.

The number of published cases of infective thrombosis or thrombo-phlebitis as a complication of peritonsillar abscess is exceedingly small. Bosworth,* in his exhaustive treatise on *Diseases of the Nose and Throat,* devotes a paragraph of five lines to this rare complication, and refers to cases having been reported by Rigal, Didelot, and Kiemann.

A careful review of the literature at my command adds nothing to the list referred to by Bosworth. Breton † gives a published account of these cases, which are of such importance in connection with the subject under discussion that I trust I may be pardoned for giving a brief *résumé* of each case:

Rigal's case: "Patient, aged twenty-two years, entered hospital November 17, 1882, after an illness of five days. The previous health had been good. The disease began with chilliness, fever, pain in the throat, followed by slight submaxillary adenitis. Examination of the throat showed the left tonsil to be enlarged and glistening. No fluctuation present. Pulse rapid. Temperature, 40.9° C.

"Next day the tonsillar abscess ruptured and discharged a considerable quantity of pus, which was followed by amelioration of pain and decline of temperature. The patient, however, remained markedly prostrated, with persistent high temperature and symptoms resembling typhoid fever.

"Death occurred on the third day after admission, having been preceded by sweats, dyspnœa, and physical signs of pulmonary involvement.

"Autopsy: Both lungs studded with metastatic abscesses. Retromaxillary glands enlarged and purulent. Purulent phlebitis of the deep veins of the neck—viz., the internal maxillary, the internal jugular, and the inferior pharyngeal. The other organs of the body were found in a healthy condition."

Didelot's case: "A soldier, twenty-two years old, admitted to the hospital at Nancy after an illness of nine days. On admission, marked swelling of the right parotid and submaxillary region and of both tonsils, especially the right, so that the isthmus of the fauces was almost completely obstructed. No fluctuation in the tonsils; respiration labored; voice suppressed. A beginning jaundice.

"The symptoms grew rapidly worse, and on the second day after admission the patient died, apparently from asphyxia, though marked evidence of sepsis was present.

"Autopsy: General icterus. The tonsils, especially the right, very much enlarged. Some of the crypts contained a sanguineous pus. No distinct abscess cavity was noticed. The cellular tissues of the palate were infiltrated with pus. Uvula œdematous. Posterior section of the tongue show several small collections of whitish pus along the course of the hypoglossal nerve. Purulent phlebitis of the right internal jugular vein, which condition, on dissection, was found to extend into the common trunk of the facial and lingual veins and to the tonsillar plexus.

"No metastatic abscesses of the other organs of the body. The spleen enlarged to three times its normal size."

Kiemann's case: * Under title of Tonsillar Abscess; Death from Pyæmia, the following account of the case is taken from the yearly report of the Rudolf Hospital, Vienna, for the year 1881: "R. F., twenty-two years old; single. Had applied for treatment at outpatient department on April 12th. The attack began on previous day with chill, difficulty in swallowing, and general malaise. Examination showed right tonsil enlarged, somewhat swollen, covered with grayish-yellow exudate, easily removed. In one spot a small brown crust, from beneath which, on pressure, a yellow, odorless pus escaped. Cervical glands not enlarged. At this time patient refused to enter hospital as advised.

"On April 15th patient presented himself for the second time at out-patient department suffering from high fever, and in a condition of extreme prostration. Only after long argument was he induced to enter hospital. On admission, late in the afternoon, temperature 40.6° C. During the night he was delirious and somnolent.

"Treatment: Quinine, one gramme, and ice pellets.

"*Status, April 16th.*—Pulse, 120; temperature, 40° C. Patient of medium height, muscular physique, yet extremely weak, somnolent, and delirious. Conjunctiva as well as skin jaundiced. Left tonsil much enlarged, without any covering of exudate, red, glistening, and tense. On pressure, a yellow pus escaped. The cervical glands on left side swollen. At the apices of both lungs faint inspiratory murmur, with full percussion note. At the right base dullness on percussion, and bronchial breathing over an extent of two fingers' breadth.

"Over the left base, for three fingers' breadth, marked dullness on percussion, with feeble breath sounds. Sputum white. Spleen much enlarged. Temperature normal; abdomen soft.

"On account of constipation was given infus. sennæ; quinine, one gramme; pellets of ice. Rupture of left tonsil, whereby some yellow odorless pus was emptied. In the evening temperature 40° C. Urine, no albumin, tinged with bile.

"*17th.*—Delirious during night, very weak and somnolent, responded only to loud words. Marked general icterus of skin and mucous membranes. Pulse fluctuating between 108 and 128, yet powerful. Respiration fluctuating between 24 and 48; temperature, 39° C. From the ruptured tonsil on pressure some odorless yellow pus was discharged. The right tonsil somewhat swollen, yet without any croupous exudate, being only covered with mucus and easily removed pus. The lymph glands on left side of neck decidedly swollen. On right side, posteriorly from the middle of the thorax to the base, percussion note somewhat tympanitic, and marked increase of vocal fremitus. On the left side flatness, for three fingers' breadth, and much weakened breathing. No expectoration. Spleen markedly swollen. Abdomen retracted and soft. Three stools discharged in bed. Urine also passed involuntarily.

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* *Diseases of the Nose and Throat,* vol. ii, p. 109.

† *Thèse de Paris,* 1883. Rare Complications of Phlegmonous Amygdalitis.

* *Wiener medizinische Presse,* 1882, p. 1520.

"The patient died at 12.15 noon in stuporous condition.

"Autopsy: In the bronchi, sero-mucous fluid. The laryngeal mucous membrane dark red in color, exhibiting occasional ecchymoses. The mucous membrane of pharynx extremely hyperæmic and swollen. Both tonsils distinctly enlarged; in the left, an abscess about the size of a small nut. The tissues in the neighborhood of the tonsil, as well as the submucous and intermuscular connective tissues of the pharynx and the lymph glands on the left side of the neck, infiltrated with pus. In the left pleural cavity two hundred cubic centimetres of purulent exudate. The left pleura thickly enveloped in a lamellated exudate. In both lungs, especially in lower lobe of right, numerous small abscesses the size of a nut. The spleen about twice its normal size.

"*Remarks.*—The favorable prognosis, which, on *a priori* ground, is usually given in cases of tonsillitis and quinsy, and which, on account of the slight local and general manifestations, was given by us in the out-patient department on April 12th in this case, was here ignominiously confounded, for a rapidly developing pyæmia which arose from an abscess cavity scarcely the size of a hazelnut quickly led to extensive lobular suppuration in the lungs, and, being complicated with an extensive phlegmon of the tissues of the neck, terminated in a few days in death.

"It is in this rare case of special interest that only an initial chill marked the onset of the tonsillar abscess, but the rapidly developing pyæmia ran its course entirely without any chill, and only marked by very high temperature, together with an enlargement of the spleen of rapid growth."

The cases I wish to add to the above list are as follows:

CASE I.—Mrs. M., aged thirty years, entered Mercy Hospital, Pittsburgh, on February 17th with the following history — viz.: Mother died of tuberculosis. Father, brothers, and sisters living and in good health.

Personal History.—Patient states she has always enjoyed good health until three weeks ago, at which time her present illness began. First noticed pain and soreness in the region of her left tonsil. There was no distinct chill, although she experienced chilly sensation during the first two days of her illness. The pain and swelling in the left tonsil gradually subsided, and after a lapse of three days the right tonsil became similarly affected. Besides the swelling in the throat, there was marked tumefaction and pain in the right side of the neck. She was admitted to the hospital in this condition.

Examination of the throat showed the left tonsil to be apparently in a healthy condition. Pharynx and larynx normal. The right tonsil inflamed, swollen, and having the characteristic appearance of a peritonsillar abscess. There was no exudate on the tonsil, nor could the presence of pus be detected by palpation.

External examination showed a tumefaction of the right side of the neck, extending from the angle of the jaw to the clavicle, exquisitely tender, and to all appearance like a cellulitis. The postcervical glands on the right side were enlarged and tender. The patient could not move the head without great pain, owing to the swollen and rigid condition of the muscles of the neck.

Her temperature on admission, February 17th, was 102° F.; pulse, 112; respiration, 34. Patient complained of pain in right side of chest, had a cough, and expectoration tinged with blood.

Physical examination showed a pneumonic condition of the lower lobe of the right lung, which had probably existed for one or more days. There were diarrhœa, vomiting, and symptoms of sepsis. Spleen enlarged. Examination of sputum and urine negative. Patient was perfectly rational and solicitous as to the gravity of her illness. Voice whining. She took liquid nourishment with difficulty.

During the night of the day on which she was admitted there was a distinct chill, after which her temperature rose to 104° F.; pulse, 120; respiration, 40.

February 18th.—No apparent change in the patient's condition.

19th.—Had another chill, after which her temperature was 105° F.; pulse, 126; respiration, 36. Examination of the neck showed the presence of pus beneath the superficial fascia of the neck. An incision was made, and from two to three ounces of greenish-brown offensive fluid were evacuated. The cavity was flushed out with distilled water and packed with iodoform gauze. The patient continued to grow worse, had another chill during the night, and on February 20th an incision was made through the anterior tonsillar pillar and a small quantity of pus evacuated. No communication could be established between the abscesses of the tonsil and the neck.

Bronchial breathing over the middle and lower lobes of the right lung. Expectoration dark brown and fœtid. Urine and fæces passed involuntarily. No delirium. Patient still solicitous as to the prognosis of her case.

February 25th.—Other foci of infection in the right lung. Had chills at frequent intervals. Prostration progressive, and patient died February 26th, on the ninth day after her admission to the hospital.

Autopsy: No icterus. Tumefaction of the neck, right side in the submaxillary region, extending as low down as the clavicle, and well behind the ear. Mastoid not involved. Periosteum of the styloid process, axis, and atlas denuded. Cellular tissues of the neck disorganized and broken down. On dissection there was found a thrombosis or thrombo-phlebitis of the internal jugular and the veins leading upward to the tonsillar plexus. A small peritonsillar abscess cavity on right side. Metastatic abscess in middle lobe of right lung. Other foci of infection in the apex and the base of the right lung. Spleen enlarged to three times its natural size. Other organs of the body were found to be normal.

CASE II.—H. K., German, aged forty-two years, and shoemaker by occupation, was admitted to the West

Penn Hospital, Pittsburgh, October 15, 1898, and assigned to the service of Dr. J. H. Anderson, who has kindly furnished me with the report of the autopsy, as the patient suddenly expired four hours after being admitted to the hospital.

From Dr. Blackly, the family physician, I have obtained the following account of the case:

"I was called to see Mr. K. on October 9th, and found him in bed suffering from a left peritonsillar inflammation; temperature, 102° F.; pulse, 90. On the following day the temperature was 102.5° F.; pulse, 100; fluctuation detected; tonsil incised, and a large quantity of pus evacuated. This was followed by marked improvement, and the next day (October 11th) the patient went out to attend to some business, was caught in the rain and completely drenched. This exposure was immediately followed by a chill and a temperature of 104° F. Throat painful, and an increased swelling of left tonsillar region and tissues of the neck, resembling a cellulitis. Patient delirious and insisted on getting up and going out on the street. Evidence of sepsis from repeated chills and persistent high temperature.

"On October 15th the neck was enormously swollen; temperature, 106° F.; pulse, 160; and in this condition the patient was allowed to travel in a street car a distance of eight miles to the West Penn Hospital, where he arrived in an exhausted condition, and expired four hours after admission.

"Autopsy: Abscess in the left peritonsillar tissue which had perforated the palatal muscles, the superficial cervical fascia, and sheath of the jugular vein. Thrombosis and thrombo-phlebitis of the internal jugular vein. Multiple small abscesses of the kidneys. No other evidence of metastasis. Brain not examined."

The case of Blachez, referred to by Bosworth,* is omitted from the above list, on account of the possibility of its being a case of *acute infectious phlegmon* of the throat. It is published under the title of Phlegmonous Angina, and no mention is made in either the history or autopsy of any distinct peritonsillar inflammation or abscess.

Kiemann does not speak of any venous thrombosis in the report of his case. The history and course of the disease, however, would point strongly to the existence of such a pathological condition, which was in all probability either overlooked or omitted in the report of the autopsy.

Septic thrombosis or thrombo-phlebitis is not a complication which we ordinarily anticipate in connection with a peritonsillar inflammation. This report, however, will serve to show not only the possibility but the serious nature of such a complication, and of the necessity of a more guarded prognosis in the treatment of this disease.

The Society of Medical Jurisprudence.—At the last regular meeting, on Monday evening, October 9th, the special order was a paper entitled Extremes in Anthropometry, with Reference to the Bertillon System, by Dr. Edward C. Spitzka.

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* *Diseases of the Nose and Throat*, vol. ii, p. 109.

REPORT OF

CASES OF PERITONSILLAR ABSCESS ASSOCIATED WITH DIPHTHERIA.*

By THOMAS HUBBARD, M.D.,
TOLEDO, OHIO.

The pyogenic bacteria, streptococci, staphylococci, and pneumococci, are found in the throat in frequent association, singly or in a group, with the Klebs-Loeffler bacilli. The physiological inhibitory processes against invasion by these bacteria are in striking contrast to each other. The pyogenic cocci are resisted by phagocytosis and the distinctive end product is abscess. Coagulation necrosis is characteristic of the invasion of diphtheria bacilli and the end product is the false membrane.

When we take into consideration the frequent association of these bacteria in apparently pathogenic quantities it is very remarkable that the end processes so rarely coexist. In cases of diphtheria of the mixed infection type the initial inflammatory reaction of tissues of the throat and lymphatic system is frequently such as to lead us to expect deep suppuration or peritonsillar abscess. There is frequently undetected superficial pus formation along with coagulation necrosis, but peritonsillar abscess is a rare complication of diphtheria. In fact, phagocytosis is not a process of tissue resistance characteristic of diphtheritic infection. It occurs incidentally, and is due to bacteria associated with the Klebs-Loeffler bacilli.

It is possible that a mild diphtheritic condition may be entirely masked by a severe attack of quinsy. The clinical records of quinsy throat pareses suggest this, but certainly the occurrence is very rare, as it is not a feature of the literature of the much-studied disease, diphtheria.

Two cases exhibiting both diphtheria and quinsy at the same time came under my observation within a year and seem worthy of record.

Case I.—A farmer, aged thirty years, of temperate habits, and living in healthful surroundings, his home being about five miles from a neighboring town, consulted his physician on May 12th on account of acute amygdalitis. He was out and at work in a few days, but his throat again becoming painful, and having had an attack of quinsy a year previously, he remained at home and applied domestic remedies.

He called his physician again about the fifth day after the first visit. The right tonsil was incised and some pus evacuated. He did not improve, and the next day both tonsils and the pharynx were found to be covered with false membrane. He was given thirty-five hundred units of diphtheria antitoxine in divided injections. The membrane rapidly invaded the nasopharynx, nares, and larynx. Laryngeal stridor was apparent on the evening of the sixth day and increased alarmingly during the night. He had little fever at that time.

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* Read before the American Laryngological Association at its twenty-first annual congress.

I saw him in consultation about noon on the seventh day. The dyspnœa was so great and had persisted so unremittingly for nearly eighteen hours that he was well-nigh asphyxiated. It was impossible to inspect further than the fauces. A purulent discharge was escaping from somewhere in the throat, and an ichorous discharge came from the nares. The anterior cervical region was much swollen, and even as low as the fourth rib on the right side there was œdema, suggestive of a deep phlegmonous process.

As a preliminary to tracheotomy, to which he eagerly consented, a hypodermic of whisky and strychnine was given. Our preparations for the operation were abruptly cut short by the patient ceasing to breathe, and he fell back on to the bed, apparently lifeless. He was lifted to a table and tracheotomy was quickly performed. Even the free incisions through the congested tissues and thyreoid isthmus bled very little. With the tracheal dilator in place about fifteen minutes of artificial respiration restored the heart's action and respiration, and at the same time a copious hæmorrhage began, which was controlled by packing with gauze, saturated with an iron solution, which he had also been taking internally.

The trachea was in the same condition as the throat —decidedly œdematous and covered with diphtheritic membrane.

His temperature gradually mounted to 104° F., and about eighteen hours later he died, the immediate cause being apparently pulmonary œdema. The thoracic swelling had increased, but the free incisions in the neck had somewhat relieved the swelling in this region.

The wife and two children developed typical diphtheria, were treated by antitoxine, and recovered, one exhibiting throat paresis. In this case suppuration had already taken place when diphtheritic invasion began. The disease then assumed the phlegmonous type, and there was undoubtedly septic phlebitis and rapid extension to the thoracic veins, as well as a descending cellulitis with involvement of the mediastinal lymphatics.

Case II.—The second case presents a general clinical history that very clearly demonstrates the vagaries of mixed infection, the different members of the family exhibiting types of infection ranging from simple sore throat to abscess and fatal diphtheria.

The eldest son of a large family had "sore throat" and remained at home for a few days. Two younger children had attacks of mild amygdalitis, as described by the mother. No physician was called. A few days later a younger daughter developed typical diphtheria and another had quinsy. About four days later the one was moribund from diphtheritic toxæmia and the other had a large peritonsillar abscess with pseudo-membrane over most of the throat. The abscess was incised and a large quantity of pus evacuated. The toxæmic patient died within an hour of my first visit. The other received four thousand units of antitoxine and recovered after a very severe sickness.

A baby sister developed diphtheria of most virulent type and died within two days of the diagnosis.

This series of cases of mixed infection suggests that the virulence of the different bacteria, together with the age and natural resisting power of the patient, determines which type, false or true diphtheria or peritonsillitis, shall predominate.

In cases of this character, where pus is confined beneath tissue covered with a diphtheritic membrane, the question as to the propriety of early incisions is an important one. The more the surface is abraded the deeper will the diphtheritic infection penetrate, and the greater will be the absorption of toxine. We should be guided by ordinary surgical principles and first locate the pus accurately. It should be evacuated only through tissue already devitalized by softening, and vascular tissue should if possible be avoided.

NASAL STENOSIS.

By BURTON S. BOOTH, M. D.,

RHINOLOGIST, OTOLOGIST, PHARYNGOLOGIST, AND LARYNGOLOGIST TO THE TROY HOSPITAL AND TO THE LEONARD HOSPITAL.

The treatment of nasal stenosis due to deflected sæpta, with or without thickening of the convex side, was prior to 1886 rather ineffective and disappointing. The various methods used up to that time failed to correct the deformity, and the operator was confronted with the same conditions and resulting symptoms after the operation as he was before.

The reason why the former operations had not been successful was simply the fact that the resiliency of the cartilaginous sæptum had not been thoroughly broken up, and herein lies the secret of successful correction of this deformity.

During my brief career as a nose and throat surgeon I have tried nearly every operation worthy of mention. I first tried the forcible crushing of the sæptum with Adam's forceps and the insertion of plugs, which were worn for four weeks; I next tried the method of pushing the sæptum into the concave nostril and transfixing it with a long pin; I further used the stellate punch, removing the most prominent part of the obstructing sæptum. Subsequently I resorted in turn to the multiple-incision operation, the snaring operation, and the electro-cautery operation, and each time I was chagrined to find that my efforts had been fruitless and that the original deformity, with its dependent symptoms, still existed.

After being disappointed in the failure of these various methods to correct this condition, I used the nasal saw as recommended by F. H. Bosworth, of New York city, removing as much of the sæptum as could be done without producing a perforation. I was contented to use this method, as I must say it had given me fairly good results, especially where I had corrected by means of the electro-cautery or the snare any existing hypertrophy of the turbinated tissue.

Until some four or five years ago I made trials of the operation recommended by Dr. Morris Asch, of New York city, but not having a thorough conception of his method and technique of operating my labors were of no avail and I did not get a good result.

Some few months after my failure with this operation I had occasion to visit New York city, and I took the liberty to call on Dr. Asch, who, after explaining his method thoroughly to me, kindly invited me to witness an operation which was to be done by Dr. Emil Mayer at the New York Eye and Ear Infirmary that afternoon. I accepted the invitation, and was very much pleased that I had done so, for I readily saw that his success depended upon the manner in which he operated, and that my failure had been due to imperfect technique.

Since that time I have performed Asch's operation to correct this deformity a number of times and have been gratified with the results. My method of operation, which I believe to be the same as his, is as follows:

First. It is necessary to select the cases for operation in order to be successful, as I believe this operation to be intended to relieve deflection of the cartilaginous sæptum only; but, fortunately, deflection of the bony sæptum, except for its anterior portion, is not common, so that this operation will suffice in the majority of cases. I myself prefer to operate in a hospital, where the patient can be prepared for a day or two before the operation, and where he can be under the constant observation of a trained nurse for a few days following it. The operation should be done under an anæsthetic. The instruments used are a pair of straight and a pair of angular cutting scissors recommended by Dr. Asch, a compressing forceps similar to the Adam's forceps, a blunt separator for separating any adhesions which may exist between the convex portion of the deviated sæptum and the inferior turbinated body, and some tubular splint made of hard rubber. These instruments should be thoroughly sterilized and the nostrils thoroughly cleansed by means of cotton wound on applicators dipped in some antiseptic solution. After the nostrils have been thoroughly cleansed the patient is placed in a position with the head extending over the end of the table to prevent so far as possible the blood running down into the larynx, producing coughing which might interfere with the operation; under full illumination the separator is then introduced into the stenosed nostril and any adhesions which may exist are broken down. The scissors are now introduced parallel to the floor of the nose, the sharp blade entering the nostril on the concave side of the sæptum and the blunt blade entering that on the convex side; the blade should be at right angles to the sæptum, and over the most dependent part of the deflection. After being sure that the blades are in the right position, the handles are firmly closed and the sharp blade passes through into the opposite nostril with a distinct snap; the scissors are now opened and withdrawn, and are immediately reintroduced in the same manner as before. This time the blades are made to cross in a vertical direction the first incision at its centre and as far as possible at right angles, thus making a crucial incision with four segments. The operator now introduces his finger into the stenosed nostril, pushing it through to the opposite nostril, at the same time breaking each segment at its base, thus destroying the resiliency of the sæptum; and I might say here that this is the most important part of the operation, for in destroying the resiliency of the sæptum it makes it impossible for it to resume its old position. An Adam's straightening forceps is now introduced, one blade into each nostril; the sæptum is grasped between its blades and by a rotary motion is more thoroughly broken up and brought into the median line; at the same time, by holding the forceps in this position, thus compressing the sæptum, the hæmorrhage is somewhat checked, and I believe that more can be accomplished to check the hæmorrhage by this method than by the spraying of solutions into the nose. After the hæmorrhage is somewhat under control, a firmly fitting hard-rubber perforated splint is placed into the nostril which was stenosed and a smaller splint is placed into the opposite nostril. The pressure of these splints will have a tendency to check the remaining hæmorrhage; still, there may be oozing for some time after the operation. It may be necessary to hold the splints in place by means of a strip of rubber adhesive plaster.

The patient is placed in bed, where he should remain for a few days, and for a few hours should be fed in the same way as any patient who has taken an anæsthetic.

When he recovers from the bad effects of the operation and the anæsthetic he should have a light diet for the time he remains in bed, after which he may have ordinary diet.

The splint should be removed from the non-stenosed nostril after twenty-four hours and the nostril should be washed out. Twenty-four hours subsequently the splint in the stenosed nostril should be removed, the nostrils thoroughly washed out with an antiseptic solution, and a fresh sterilized splint of proper size introduced; this splint should be removed at least once a day by the patient, who can easily be taught to remove and insert the tube with little or no pain. The nostril should be thoroughly washed out by some saline solution each time the splint is removed. I use a tablet made by Frazier, composed of sodium salicylate, two grains; sodium chloride, twenty grains; spirits of camphor, three minims and a half, to make this solution. One tablet added to half a cupful of warm water is the proper strength of the solution to be used. This solution makes a bland and cleansing mixture. The patient should be instructed not to blow the nose for a couple of minutes after spraying.

The splint should be thoroughly cleansed before it is reintroduced. The patient should be seen a couple of times a week by the operator and the splint should be worn for at least four weeks, after which it may be left out permanently.

The swelling and inflamed condition of the mucous membrane, which result from the wearing of the hard splint, usually succumb to the frequent flushing of the parts with saline solution. If not, I use a four- to six-per-cent. ichthyol ointment.

It may be necessary to remove under cocaine any thickening which may be produced by the overlapping of the segments, by means of a saw. This is a very simple procedure, and is not often necessary.

As to the preference of the splints to be used, I will say that there are many different varieties on the market, most of which are good, and the operator will have to use his own judgment in selecting the splints to be worn. I have many different kinds, and commonly use the one that the patient complains the least of.

I may state that the success of the operation does not depend on the kind of splint to be worn, but on the manner in which the operation is performed and the attention given to the parts by the operator and the patient subsequent to the operation.

The splint can be worn with little or no discomfort and without attracting any attention, thereby allowing the patient to attend to his duties.

THE COURSE AND PROGNOSIS OF CHRONIC SPINAL NEURITIS.

By ARTHUR CONKLIN BRUSH, M. D.,
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CONSULTING NEUROLOGIST TO
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Although chronic neuritis is a well-recognized affection, it is usually described together with the acute form; and so much attention is devoted to the latter that but an imperfect impression of the importance of the former is conveyed. Nevertheless it is a condition which, although it does not often directly effect the death of the patient, yet causes him to suffer from intense pain for months or years, and frequently leaves him with one or more of his limbs wasted and partially or completely paralyzed. Fortunately, the chronic form is not as common as the acute. In one hundred consecutive cases of all types of spinal neuritis which have come under my care, I find this form occurring in only eighteen per cent.

Chronic neuritis may be secondary to the acute form, or it may be chronic from the beginning and following such causes as injury, alcohol, the metallic poisons, tuberculosis, malaria, and the different forms of rheumatism and gout. In my own cases three followed the acute form, eight were due to chronic alcoholism, two to injury, and one each to tuberculosis, rheumatism, parturition, arsenic, and lead.

As in the acute form, we may find the inflammation confined to one nerve or a group of nerves; or it may involve a large number of nerves simultaneously or consecutively. The symptoms develop slowly and insidiously without constitutional disturbance. Pain is often an early and prominent symptom—a pain which is referred to the course of the nerve, and which is of a dull, burning character, with frequent exacerbations. With or without the pain there are often subjective sensations of numbness or burning in the skin supplied by the affected nerves. All forms of sensation are usually diminished in the affected part, or with the loss of tactile sensation there may be increased sensitiveness to pain. The affected nerve trunks are tender on pressure, and any movement which puts them on the stretch causes pain. At the same time there is a gradual loss of power associated with flaccid atrophy of the muscles supplied by the affected nerve; and this may pass into complete paralysis with almost total disappearance of the muscle substance, leaving rigid atrophy, contracture, and deformity. At times there may be fibrillary tremors or cramps in the affected muscles. The tendon reflexes are early diminished and frequently lost. The well-known electrical reactions of degeneration appear early, and all reaction is frequently lost. Trophic affections of the skin, bones, and joints are also not infrequent.

The pathological changes found in the affected nerves are similar to those of the acute form, but differ from them in that there is less tendency to the destruction of the axis cylinder and an increased one to the formation of a permanent hypertrophy of the perineurial and interstitial connective tissues with a thinning of the myelin sheath, thus producing permanent compression and irritation of the affected nerves. It will be seen that these changes are of a permanent character, leaving the nerve partially or completely destroyed, and in some cases they may extend to the spinal ganglia or the cord itself.

Clinically we can divide these cases into those in which the inflammation is confined to one or more nerves in the arm or leg, and those in which it involves a large number of nerves in different parts either simultaneously or consecutively. In my seven cases, in which the neuritis was confined to the arm, the disease was of the chronic type from the beginning, and due to alcohol in three, to injury in two, and lead in two. All began with pain referred to certain nerves, followed by loss of power and atrophy in the muscles supplied by them; and this condition gradually spread to other nerves, often showing the peculiar involvement which indicates disease of the roots of the brachial plexus. In my cases of this type the motor symptoms have been much more marked than the sensory, and in all but one the patients have been left with decided weakness or complete paralysis associated with marked atrophy of the affected muscles. Of this class the following is a good example:

Man, aged twenty-nine years, a plumber. Present trouble began two years ago with neuralgic pains in the right arm and hand, followed by loss of power and atrophy associated with fibrillary twitching in the ball of the thumb, which spread to the forearm and shoulder. On December 20, 1892, his condition was found to be as follows: Thumb extended and adducted, second and third fingers flexed, and fourth and fifth fingers extended. Complete paralysis with marked atrophic rigidity of all the muscles of the hand and forearm, the triceps, deltoid, supraspinatus and infraspinatus muscles. Tactile anæsthesia with increased sensitiveness to pain over the back of the hand and forearm, and tenderness on pressure over the nerve trunks in the arm. At the present time there is still complete atrophic paralysis of the intrinsic hand muscles, the deltoid, and scapular muscles.

In the cases in which the neuritis is confined to the lower extremity, it most commonly involves the sciatic and its branches. In my six cases, two followed the acute form and the others were chronic from the beginning. Of the latter, four were due to alcohol, one to injury, and one to tuberculosis. In all these cases the lesion was not as closely confined to one limb as in the arm type, but existed to a slight extent in its fellow. Pain is a much more marked symptom in the leg than in the arm type. At first it is paroxysmal, but after a time it becomes continuous, with severe exacerbations. Soon motor symptoms develop, as in the arms, and are frequently associated with cramps in the calves. In the cases which I have seen the prognosis as to the motor symptoms has been much better than in the arm type; but, on the other hand, they are usually left with frequent and severe attacks of pain in the affected nerves. The following is a good example of this type:

Man, aged fifty-seven years. Three years before I saw him he began to have severe neuralgic pains referred to right hip, back of right thigh, and right leg. Two years later he noticed that his right calf was becoming smaller and that he was unable to lift the toes of that foot from the ground. Severe cramps also occurred in the right calf at night. On May 5, 1893, there were found marked foot-drop on the right side, with well-marked flaccid paralysis of all the leg muscles, and a similar but less marked condition in the extensor quadriceps. Loss of all forms of sensation in the foot and leg, with tenderness over the sciatic nerve. In this case the motor symptoms have slowly improved, leaving a slight atrophy and loss of power, but the severe pains continue at the present time. I should have added that in both this case and in that of the arm type the galvanic reactions found in degenerative conditions were present, and that in the former the knee-jerk was diminished.

In the six cases of the chronic form of multiple neuritis, which I have recorded, the condition has been chronic from the beginning, and due to alcohol in three, and in the others to parturition, arsenic, and rheumatism respectively. Unlike what occurs in the acute type of the disease, the inflammation does not affect simultaneously the nerves of both upper or lower limbs or all four together, but appears at first as a local condition irregularly involving the nerves of one limb, and then, after some time, those of another limb, not necessarily the mate to the one first involved, or even on the same side of the body. Neither is there any relationship between the nerves involved in the different limbs; so that, while the acute type is markedly symmetrical, the chronic form is markedly irregular. After the disease has appeared in the nerves of a limb it may remain confined to certain ones or slowly involve all the nerves of the member. The symptoms are the same as in the local types, but pain is not, as a rule, prominent. The prognosis has in my experience been very bad, for three have died, one has been left with complete paralysis and atrophy of his arms and legs, and two have terminated in locomotor ataxia. Of this condition the following is a good example:

Woman, aged forty-one years; rheumatic history. Her present condition began seventeen years ago with gradual atrophy of the thenar and hypothenar eminences, accompanied by weakness and fibrillary twitching. This condition slowly spread to the forearm and shoulder, and three years ago appeared in the extensors of the right foot and leg. On June 19, 1896, her left thumb was found to be flexed across the palm and her left little finger extended and abducted. There was complete atrophy of the thenar and hypothenar eminences and of the flexor and extensor carpi ulnaris, and also paralysis. There was a similar but less marked condition in the left deltoid, right thenar and hypothenar eminences, and extensors of the right foot and leg. There was loss of tactile sensation with hyperæsthesia to pain over the palmar surface of the left hand, and pain on pressure over the nerve trunks in all the limbs. The atrophy and consequent paralysis have since that time slowly spread in an irregular manner until at the present time the patient presents a complete atrophic quadriplegia with flexor contractions. That locomotor ataxia sometimes begins as a neuritis of the posterior nerve roots is now a well-established fact, but that it may begin as an ascending neuritis is denied by some. The termination in two of my cases would support the theory that it may so arise, and I therefore offer their histories in support of it.

Man, aged sixty-seven years. He has had three attacks of neuritis, each following exposure to cold and wet. Absolutely no history or physical evidence of syphilis. His first attack occurred seventeen years ago, and involved both legs. The second attack occurred one year later and involved the left arm. The present attack began nine years ago with pain and numbness in the feet and legs, followed by pain, gradual loss of power, and atrophy in all the muscles of the lower limbs. On March 19, 1895, there was found a partial paralysis of all the muscles of the lower extremities, most marked in the extensors, partial loss of tactile sensation, with delayed sensation of pain, tenderness over the nerve trunks, and absence of knee-jerks. By November, 1896, the paraplegia had improved so much that he was able to stand and walk a few steps; but since that time he has also developed static and locomotor ataxia, loss of knee-jerks, vesical incontinence, lightning pains in the trunk and limbs, attacks of diplopia, Argyll Robertson pupils, and girdle sensations.

The second case is that of a man, aged thirty years.

No history or physical evidence of syphilis. In 1894 he was under my care for a severe attack of acute multiple neuritis, from which he recovered. He again came under my care in November, 1895, suffering from loss of power in the extensors of the feet, associated with loss of tactile sensation and hyperæsthesia to pain in the feet and legs. He recovered his motor power, but continued to have attacks of severe pain in the lower limbs, and on October 8, 1898, he was first noted as ataxic in his gait. There were then found to be present well-marked static and locomotor ataxia, Argyll Robertson pupils, and absence of knee-jerks. The attacks of severe pains still continue, as do the disturbances of sensation in the feet and legs.

It will be seen, then, from the histories of these two cases that we have a clear history of neuritis in which the patients after some time slowly developed the symptoms of locomotor ataxia; yet the most careful investigation was unable to show any evidences of syphilis or other usually assigned causes for the latter condition. If we are to consider the occurrence of the locomotor ataxia not as an accident but as a sequel of the neuritis, its appearance is easily explained by the inflammatory process passing upward by the posterior nerve roots to the posterior columns of the cord.

GANGRENE OF THE LUNG.

WITH A REPORT OF TWO CASES.

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GANGRENE of the lung is seldom a primary disease, but rather the sequence of some other diseased condition. It is comparatively of infrequent occurrence. Tyson states that in three per cent. of the deaths from pneumonia gangrene of the lung is present. In sixteen hundred and twenty-one consecutive autopsies in the Middlesex Hospital Fowler found gangrene of the lung in but seven cases.

There are certain conditions which predispose patients to pulmonary gangrene, as, for instance, anything which lowers the vitality or produces general debility or interferes with the pulmonary circulation. It is especially likely to occur in diabetic patients, and to follow pneumonia where the vessels become so engorged that the circulation is seriously interfered with, or at some points completely arrested. Troops suffering from scurvy have frequently been attacked with pulmonary gangrene.

Gangrene may also follow injuries and wounds of the chest, both penetrating and non-penetrating, the inspiration of foreign bodies and of septic material from septic processes in the mouth and throat, or be embolic in character, the result of septic processes situated elsewhere in the body, or be caused by tumors making pressure upon the pulmonary circulation. It occurs occasionally in the insane and in those suffering from bulbar paralysis. It is especially liable to follow septic processes situated within the chest wall, as in bronchiectasis, fœtid bronchitis, tuberculous cavities, and empyemic processes.

In considering the symptomatology of pulmonary gangrene one must remember that, as it is a secondary process, its symptoms will be more or less intermingled with and masked by those of the disease which has preceded it. In fact, gangrene of the lung has no symptoms which are absolutely distinctive or pathognomonic, and none which are even suggestive, until the gangrenous area has opened into a bronchus. In common with other acute affections of the lungs, there are pain, disturbed respiration, fever, and cough, the last often paroxysmal and most intensely harassing.

With the opening of the gangrenous area into a bronchus, hæmorrhage occurs, slight or severe, and a fœtor of the breath and expectoration which is intense, penetrating, horrible. With this fœtor of the breath there may occur a sweetish, most disagreeable, and disgusting taste, often more distressing to the patient than the breath.

The fœtor is most intense during the act of coughing. The sputum has a dirty gray, a brownish green or blackish color and is usually streaked with blood; or the amount of blood expectorated may be considerable or even alarming.

The sputum, if collected in a glass jar and allowed to stand for several hours, forms in three layers. The first is mucopurulent in character, the second serous, and the third or lower layer is thick, heavy, and consists of pus, blood, crystals of fat, the various pyogenic, pathogenic, and saprophytic micro-organisms, and elastic tissue, with fragments of lung tissue in large or small sloughs.

While the fœtor of the breath and expectoration is most suggestive of pulmonary gangrene, it must be remembered that occasionally a like fœtor occurs in fœtid bronchitis, in bronchiectasis, and in tuberculous cavities.

The history of the case would aid very materially in distinguishing these conditions, as well as the absence microscopically of fragments of lung tissue or any considerable amount of elastic fibres. The condition must also be distinguished from abscess, although the treatment may be the same. Abscess has not the horrible fœtor of gangrene, neither does the expectorated material correspond in color, nor is there the same likelihood of hæmorrhage.

A reliable diagnosis of pulmonary gangrene will depend upon the history of the case, the symptoms, the characteristics of the sputa, and a thorough physical examination of the chest.

Primarily there will be circumscribed dullness, providing the area affected is of sufficient size and superficially situated, with bronchial breathing and more or less of râles.

With the breaking down of the area there will be the signs and symptoms of a cavity. The diagnosis and location of a cavity are of the very first importance. If the area has approached or implicated the costal pleuræ, there will be severe pain with the friction sounds of a pleurisy. Upon percussion a portion of the dull area will have changed to tympanites. In one of my cases the percussion note was observed to alternate over a circumscribed area between dullness and tympanites. After a severe fit of coughing and the expectoration of a quantity of pus and broken-down material, the area would, upon percussion, be low pitched and markedly tympanitic. If the patient had had no severe cough for twenty-four or thirty-six hours, the cavity would become filled with pus and blood, the air forced out, and the percussion note be dull.

Upon auscultation cavernous or amphoric breathing, cavernous or amphoric voice, and gurgling râles or a metallic tinkling may be heard.

If the cavity is in full communication with a bronchus, the percussion note will be higher with the mouth open than with it closed (Wintrich).

Gerhardt has called attention to the fact that if the cavity is longer in one direction than another and contains fluid, change in the patient's position, by allowing the fluid to gravitate in different directions, will change the pitch.

Wintrich's interrupted change in pitch is considered pathognomonic—that is, with the mouth open, a rise of pitch is noticed upon percussion only in a certain position, as, for instance, lying upon one side or sitting up.

By a careful consideration of the history and symptoms, and a thorough examination of the chest, the presence or absence of a cavity may usually be determined.

In a few cases of gangrene of the lung recovery will take place under the expectant treatment. In these cases the gangrenous area will be small, well circumscribed, and will have opened freely into a bronchus. But in the great majority of cases pulmonary gangrene will require surgical interference. Réclus says that but thirty per cent. recover without operative interference, and that from seventy to seventy-five per cent. of those operated upon recover. Operation is indicated when the cavity is of any considerable size; where it is not well drained through a bronchus; where there is severe or alarming hæmorrhage; where the fœtid expectoration is exhausting the patient; or where there is a harassing cough, irritative diarrhœa, and commencing hectic.

If the process is slight and deep seated, operation may reasonably be delayed for a few days, provided there are no contraindications, with the expectation that the process will become superficial and cause adhesions of the pleural surfaces.

The location of the gangrenous area must be determined as nearly as possible by a physical examination of the chest. Then this finding is corrected, if necessary by the use of the aspirating needle. One may succeed with the first puncture, or only after several punctures, or may utterly fail. Success with the needle will depend largely upon the size of the gangrenous area, its nearness to the surface, and upon the presence of adhesions. If the area is small or deeply situated, or even superficially situated, without adhesions, and with some pleuritic effusion, failure to locate the area is most likely to occur.

It may be possible while making these punctures to determine the presence or absence of adhesions. If a pleural cavity exists, this can be determined, and if the needle moves synchronously with respiration, adhesions are probably not present.

If the gangrenous cavity is located and adhesions are present, it may be cut into with or without the resection of a rib. If adhesions are absent, the pleural surfaces may be united by a row of sutures around the gangrenous area, or the general pleural cavity may be shut off by an iodoform-gauze packing. The latter method is recommended by Carl Beck, and has been practised by myself with excellent results in one case. Clinical experience has shown that not infrequently the surgeon fails, even after repeated efforts, to locate the gangrenous area with the needle. In these cases multiple resection of ribs should be practised through a perpendicular incision in the axillary or post-axillary line and the lung palpated. That this can readily be done I know from personal experience in a number of cases. The softened gangrenous area can be recognized by the hard, hepatized portion of lung which surrounds it. The danger incident to opening the chest on account of collapse of the lung has been, I believe, overestimated.

Pleuritic adhesions or pulmonary hepatization will prevent the lung in part or wholly from collapsing, and even should collapse take place to a lesser or greater degree, reexpansion will soon occur on account of the dressings protecting the lung from external air pressure.

After the lung has been exposed and the gangrenous area localized, it is well to follow Sonnenberg's rule in opening it: "If the tissues over the cavity are hard, divide with a knife; if soft, with the Paquelin cautery." The subsequent treatment of the gangrenous cavity is of the first consideration. It is usually filled with pus and the *débris* of the sloughing portion of the gangrenous lung. It should be cleansed, and this can be done with ease with a gentle stream of warm carbolized water, provided the patient is so placed that external drainage is perfect. This is not likely, at most, to do more than excite some coughing. After thorough cleansing, to be done daily, the cavity should be tightly packed with iodoform gauze. Carl Beck inserts a narrow strip of gauze, but this, I think, is not sufficient to control hæmorrhage, which has been frequent in these cases and, in at least half a dozen, fatal. The iodoform gauze, if properly used, not only prevents hæmorrhage, but has a favorable effect upon the gangrenous area.

The dangers and complications which may arise during, or as the result of, surgical interference are:

1. Suffocation. In any patient having a cavity more or less filled with fluid and in direct communication with a bronchus, there is a real danger of suffocation during the administration of an anæsthetic.

2. Some of the septic material may be inspired, setting up a fœtid bronchitis.

3. The danger of shock and of subsequent exhaustion is very considerable.

4. Hæmorrhage, both intercostal and pulmonary, may occur.

5. Septic infection of healthy lung tissue as the result of the punctures may take place.

6. Operative interference may be the cause of secondary rapid sloughing, and gangrene of the lung may follow interference when adhesions are absent or insufficient.

7. Pneumothorax and pyopneumothorax.

The points I desire to make are these:

1. All cases of pulmonary gangrene which are progressive and not absolutely diffuse should be operated upon.

2. The gangrenous area should be localized by physical examination, aided by the use of the aspirating needle, and, if necessary, by multiple resection of ribs.

3. In the absence of pleuritic adhesions, the general pleural cavity should be shut off either by a gauze packing or by a row of sutures.

4. After thorough opening and free drainage of the gangrenous cavity it should be daily cleansed by gentle irrigation.

5. The cavity should be tightly packed with iodoform gauze.

CASE I.—Mrs. M., aged fifty-five years, of spare figure, never strong or very well. Had pleuro-pneumonia in September, 1895; it ran the usual course, subsided, and then came a return of fever; lower portion of right lung dull; at the end of the third week fœtid breath and expectoration; signs of a cavity. An aspirating needle was used; result negative. Operation: Portion of ninth and tenth ribs resected, pleural cavity opened; no adhesions; a few ounces of seropurulent fluid evacuated. Lung did not collapse very appreciably. Lung palpated; a softened area surrounded by hepatized lung discovered; aspirating needle used, which entered gangrenous cavity; area packed around with iodoform gauze. A long artery forceps was thrust into cavity and the tract dilated, then a medium-sized drainage tube inserted. Patient developed a most severe bronchitis; drainage poor; recovery very slow and somewhat imperfect; wound healed after four months.

CASE II.—Mr. W., aged fifty years, diabetic, was taken with pleuro-pneumonia, right side, November 23, 1898; fever subsided on the seventh day, then returned; circumscribed dullness in post-axillary line beneath eighth and ninth ribs. On December 2d patient complained of a disagreeable and most disgusting taste, sweetish in character. This continued as long as the fœtor of the breath, which manifested itself the following day. On the morning of December 3d the nurse spoke of the patient's breath being offensive. The same night there was a violent fit of coughing with the expectoration of much horribly offensive material very dark in color, with which there was a quantity of fresh blood. The paroxysms of coughing and raising of considerable fœtid material mixed with blood occurred every twenty-four to thirty-six hours. It was noticed that the centre of the previously dull area became tympanitic after the fits of coughing and raising, to again become dull if but little was expectorated for twenty-four hours. The case was a progressive one; the cough became more harassing, the amount of blood and material expectorated increased, and the patient grew weaker. On December 17th the cavity was located by the first puncture with the needle, a portion of the ninth rib resected, and the cavity freely opened, adhesions being present. The cavity was filled with pus and detached and undetached sloughs of lung tissue. It was about an inch and a half in diameter and six or seven inches long, running upward and inward in the lung. The cavity was gently washed out and two drainage tubes inserted. Upon the third day following the operation there was a slight hæmorrhage from the wound. This increased daily, and upon the sixth day the tubes were removed and the wound lightly packed with a strip of iodoform gauze. Upon the seventh day there was a most violent hæmorrhage, the patient coughing up in a few moments at least a pint of bright-red blood; the dressings at the same time being completely saturated. The bleeding ceased only when seemingly there was no more blood to lose. When the patient was slightly recuperated the dressings were removed and the cavity was firmly packed with iodoform gauze by using a long uterine probe. Upon the second day, when the gauze was withdrawn, fresh arterial blood in a large stream was seen to issue from the cavity; the wound was again quickly and firmly packed; this was repeated daily, and the patient made a perfect recovery. The wound healed in two months and a half.

THE RELATION OF THE STOMACH TO THE NON-PREGNANT UTERUS.

BY FRANK H. MURDOCH, M. D.,
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IT is well known that female patients suffering from the various forms of stomach trouble are frequently much worse during the menstrual flow. This is true in cases where the menses are painless as well as in patients suffering from dysmenorrhœa, and in hyperchlorhydria as well as in hypochlorhydria. As examples showing how the stomach may be disturbed at the menstrual period during the existence of exactly opposite conditions, I will cite the following cases:

CASE I.—Miss K., aged twenty-five years, came to me July 28, 1898. One year previous she had an attack of gastritis, which confined her to bed five weeks, and to the house for nearly six months.

Present Condition.—Looks pale and thin; feels weak and languid; has pain immediately after eating, lasting an hour; a great deal of bloating and belching; attacks of vertigo every day, so that she has to grasp something to keep from falling. The distress after meals, as well as the bloating and belching, are greatly increased during the menstrual period. The menses are painful only during the first day of the flow.

Examination. — Chest intact, excepting reduplication of the first mitral sound; liver normal; stomach reaches navel; whole of gastric region very sensitive to pressure. Free HCl, 32; acidity, 60.

CASE II.—On May 15, 1899, Miss H., aged twenty-six years, stenographer, came to me with the following history: Four years ago she was taken suddenly ill with vomiting and severe headache. Following this attack the headache became almost continuous, and finally compelled her to give up work.

She continued to be very nervous, however, and could not see any one, as excitement of any kind caused pain in the head. She had an empty feeling in the stomach two or three hours after meals, which was relieved for a short time by eating; regurgitation of food, sometimes sour, sometimes bitter. Appetite always good, bowels regular, slept well.

Present Condition.—Spits out sour fluid mixed with food; still has headache if she gets tired or excited; is unable to work; appetite good, bowels regular, sleeps well, looks pale, but has not lost weight. For two days before the menses appear, during the flow, and for several days after it disappears, she has nausea, pyrosis, regurgitation of food, belching, and headache, to a much greater extent than during the intervals between the periods; and in addition to these symptoms she experiences a sense of extreme lassitude and great weakness, so that she practically is confined to bed, although at other times a walk of a mile, while causing fatigue would not produce exhaustion.

Examination.—Chest intact, liver normal, stomach reaches navel, urine normal, free HCl absent.

The two cases next to be cited were patients suffering from dysmenorrhœa the result of gastric ulcer.

CASE I.—June 1, 1898, Miss H., aged seventeen years, applied to me for treatment. For six months she had suffered from dysmenorrhœa to such an extent that she was obliged to have hypodermics of morphine in order to obtain relief. Finally she applied to a competent gynæcologist, who, upon careful examination, failing to find any pelvic trouble sufficient to account for the pain, kindly referred her to me for further examination. She stated that six months before, or about the time she began to suffer from dysmenorrhœa, she lost her appetite, her bowels became constipated, and she had great distress immediately after meals, accompanied by bloating and belching.

Examination.—Chest intact, liver normal, one exceedingly sensitive circumscribed spot midway between the xiphoid cartilage and the navel. Hæmoglobin, sixty per cent. The diagnosis of gastric ulcer was made, and the patient put upon liquid diet and bismuth. On June 14th menstruation came on a few days before the usual time and absolutely without pain, much to the surprise of the patient.

CASE II.—On March 4, 1899, Miss C., aged nineteen years, came to me with the following history: In September, 1897, after dinner at noon she was seized with severe pain in the gastric region accompanied by much bloating and belching. This lasted all the afternoon, the bloating rather longer than the pain. She gradually recovered from this attack and felt very well until a few days after Thanksgiving, 1898, when she had a second similar to the first, experiencing great pain in the gastric region, with bloating and belching. Since that time she has had attacks every week, and last week had three. During those most severe, which last usually about two hours, her hands and feet grow cold, and she has been obliged to unfasten her clothing and lie down. She has never vomited, but after the most acute attacks of pain the stools have been dark.

Present Condition.—She has distress in the stomach immediately after eating, which she describes as a cramping pain referred to the lower end of the sternum, with much bloating and belching. She looks pale, but not thin, although she has lost twelve pounds in weight since Thanksgiving. Her appetite is good, she sleeps well, her bowels never move without a laxative. In September, 1897, or about the time she had the first attack of stomach trouble, she began to have painful menstruation, the pain being so severe that she was obliged always to take an anodyne to obtain relief.

Examination.—Chest intact, liver normal, hæmoglobin sixty-five per cent. There is one small, circumscribed spot of great tenderness just below the xiphoid cartilage, with a corresponding tender spot to the left of the ninth dorsal vertebra. Gastric ulcer was diagnosticated, and the patient put upon liquid diet and bismuth. On March 24th menstruation came on, and, for the first time in two years, was absolutely without pain.

These cases serve to show that menstruation, whether painful or not, may act as a disturbing element in gastric disorders, and also that in some cases dysmenorrhœa may be caused by chronic ulcer of the stomach. The direct cause of the painful menstruation in these cases must have been the irritation produced by the presence of solid food in the stomach, for both the attendant anæmia and the circumscribed spot of tenderness were present in each case after the dysmenorrhœa had disappeared.

Therapeutical Notes.

Napelline in Neuralgia.—Dr. Grognot (*Journal des praticiens*, September 2d) obtained a success in a case of obstinate neuralgia which had resisted aconitine by the following prescription:

℞ Napelline .... $\frac{1}{24}$ grain;
Extract of licorice, q. s. to make one granule.
M.
One to be taken every two hours.

For Constipation.—*Riforma medica* for July 4th attributes the following to Butherfron:

℞ Podophyllin, Euonymin, } of each .... 6 grains;
Extract of belladonna .... 3 "
Extract of hydrastis canadensis. 15 "
Medicinal soap .... 30 "
M.
For twenty pills. One to be taken at the evening meal.

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THE CHICAGO MEETING OF THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

It is always considered more or less venturesome for a scientific body whose membership is scattered to hold a meeting in a great city. The diversions are so many and so powerful that the members are apt to be drawn away, many of them, from the purposes of the gathering. It is therefore much to the credit of the Mississippi Valley Medical Association that the meeting held in Chicago last week showed not the least flagging of interest in its own work, notwithstanding the numerous and potent attractions of the city, heightened immensely at the time by the preparations for the autumnal festival and this year additionally enhanced by the presence of the chief magistrate of the republic, of the governor-general of Canada, and of the Mexican ambassador. The visitor from almost any other part of the country might well have been pardoned if all these seductions had lured him away from the halls in which the sessions were held and made him oblivious for the time being of his duties to the organization. It is pleasant to be able to record that they had no such effect. Interest in the proceedings of the meeting met with no eclipse; the members were constantly on hand to read the papers for which they had been set down, to join in the discussions, or to digest and assimilate that portion of the doings which commended itself to their judgment.

It is a customary thing for medical societies that are national in composition or, as in this instance, draw their members from a territory which, if not coterminous with the entire domain of the country, is still vast, which hold only annual meetings, and which limit the president's tenure of office to a single year—it is customary for such societies to choose the new president from the profession of the place in which the next meeting is to be held. This custom, however, has no great weight as a precedent, and it is not strange that the association, while resolving to hold its next meeting in Asheville, elected as its president for the ensuing year a Chicago physician, Dr. Moyer. This may be interpreted as showing at once its appreciation of that distinguished gentleman's personality and its recognition of the gain it had made by holding its meeting in Chicago. The physicians of that city are numerous and of great weight in the profession, and many of them joined the association during the meeting. These two things would hardly have happened if the association had not been pleased with Chicago or if Chicago had not liked its visitors; that they did happen is a matter on which the association may be congratulated.

NEURECTOMY AS A PREVENTIVE OF MASTURBATION.

The treatment of persistent masturbation, when it is a symptom of deep-seated nervous disease, has long been a source of despair to physicians. Many measures, moral, coercive, pharmaceutical, or mechanical, have been tried, commonly with varying and usually disappointing results. Dr. Campbell Clark and Mr. Henry E. Clark, however, report in the *Lancet* for September 23d a surgical measure undertaken not with a view to exercise mechanical restraint, but to eliminate sensation, and therefore gratification. It was performed, with the necessary consent, of course, upon a middle-aged man who had been insane only about three years, and who had not shown any sign of early neuro-mental degeneracy. The operation, consisting of the resection of a portion of the afferent nerve of the reflex circuit, was performed as follows: After the usual aseptic precautions, a dressing of lint steeped in carbolic solution (one per cent.) was applied to the region of operation and was kept on for four hours before the operation. The incision was transverse and was made across the dorsal surface and about half an inch from the root of the penis. The skin here being elastic and flaccid, it can be drawn into a longitudinal fold, and this is easily transfixed transversely by a sharp, narrow-bladed knife without injury to the dorsal vein. The nerves, two in number, are not easy to identify or isolate, being intimately wrapped up in the loose superficial fascia. They must be sought for on the lateral margins of the dorsum of the penis, and they are in close relation to the dorsal arteries, generally to the outer side of these. Fortunately, the arteries are more closely attached to the capsule of the corpus cavernosum and they are not, therefore, liable to be injured. The nerves were raised by means of a blunt hook and about half an inch of each nerve was resected. The wound was closed by a continuous catgut suture and, after it had been made thoroughly dry by washing with ether, a layer of thin gauze was made to cover it by means of collodion. The healing process took ten days and the patient made a satisfactory recovery.

The result was entirely satisfactory. The habit has been discontinued for over a year, sensation being absent, and the beneficial effect upon the patient's mental condition has been marked, he being, say the authors, "no longer the degraded creature he was." No atrophy of the testicles ensued. Some mental depression followed the operation for a while, but disappeared in time. The man, however, is said to "admit that he is not so energetic as before the operation." It is clear that such an operation, entailing, as it does, all loss of sensation and power of erection, must be safeguarded against such an excess of surgical enthusiasm as once set in around the operation of clitoridectomy. Especially in the young must it be held in abeyance; for it is folly to affect to deny that numbers, if not the majority, of young boys have masturbated to some extent at some period of their lives, and yet have grown up into healthy, clean, and wholesome men—and to run the risk of emasculating such would be an infamy. But among the insane and the incorrigibly vicious, the operation as described may with due safeguards find, perhaps, a legitimate place.

THE TREATMENT OF APPENDICULAR INFLAMMATION.

We seem to have made a pretty close approach to what may be called the "regulation" treatment of inflammation of the vermiform appendix and its consequences. Nevertheless, it is well to give heed to the opinions of all capable observers, even if not everything that they have to say is new or supported by novel arguments. Of such a character is an article by Tripier and Paviot (*Archives générales de médecine*, July; *Indépendance médicale*, July 26th), who dwell primarily upon the peritonitic nature of the appendicular attack, a question with which we will not at present concern ourselves, but proceed at once to give the substance of their views as to the treatment. They accept the opinion that has seemed predominant in recent French discussions, to the effect that not only is surgical intervention indicated whenever there is the slightest sign of gravity, but gives the best results in all cases in which it is resorted to early. This exclusively surgical practice is not founded on the invariable gravity of the disease, for statistics prove that spontaneous recovery is frequent, but on the difficulty, if not the impossibility, in many cases of distinguishing when the trouble is grave or likely to become so.

When the patient has undergone one or more attacks and seems free from any indication of the least danger, feeling no pain and being able to resume his usual occupation, the question of surgical intervention is still in order. If deep palpation in the neighborhood of McBurney's point reveals the slightest induration, and if pressure in that locality gives rise to any special sensation, the peritonitic focus is not extinct, and there is always danger of fresh accidents. In such cases an operation is called for. Only when all signs of peritonitis have disappeared is reliance on non-operative treatment permissible. Among the features of such treatment, the authors give prominence to prolonged and absolute rest, extending far beyond the cessation of all symptoms, and in so insisting they are undoubtedly justified.

THE TOAD AS AN INTERMEDIARY HOST OF THE TYPHOID BACILLUS.

Dr. G. Law makes an ingenious suggestion in the *Medical Standard* for October, and one that is worthy of scientific investigation. He points out that toads and frogs spend the summer months ingesting flies and other insects. Flies, of course, swarm and breed around fæcal matter. During the winter the toad hibernates, to reappear in the late spring. In view of these facts Dr. Law suggests that "a study of the intestinal contents of the common toad when he first comes out of hibernation in the early summer might reveal important facts in the life history of Eberth's bacillus." The author quotes a curious case in which, in June, 1899, there was an outbreak of typhoid in an outstanding farmhouse, there having been no cases of typhoid fever in the neighborhood, either city or country, since the preceding November. Three members, ranging from five to twenty years old, were first attacked simultaneously, and subsequently two others were attacked. There seemed to be no explainable source for the first cases. In August, however, a few days after the last case began, "portions of the skin and muscle of a toad were drawn from the tap at the kitchen sink." On these premises the author builds the following ingenious theory: In the preceding October many casuals were employed on the farm. One of these may have had ambulant typhoid and used the outdoor privy. From fæcal matter to fly, and fly to toad passed the bacillus, remaining dormant until hibernation was over, when one or more toads found their way into the well and thus started the outbreak.

THE ANTIQUITY OF BUBONIC PLAGUE.

The antiquity of bubonic plague would appear to be shown by a writer in the *Indian Medical Gazette* for September, who quotes in the vernacular a passage from *Sasruta*, part *Nidánsthána*, which he translates as follows: "Deep, hard swellings appear in the armpit, giving rise to violent fever, like burning fire, and internal burning sensation. It kills the patient within seven, ten, or fifteen days. It is called *Agnirohini*. It is due to *sannipata* (deranged condition of all the three humors, *báta*, *pitta*, and *kapha*), and is an incurable disease." On this the author comments as follows: "The question is, what disease do the Aurvedic physicians refer to? It can not be that they meant by *Agnirohini* a mere local complaint of a trifling character, though the chapter in which it is mentioned is *khudraroga* (minor complaints). It is distinctly febrile, very much so, and of a deadly character. A definite duration also is given as a characteristic of the disease. Add contagiousness to it and it resembles modern bubonic plague. Can a disease formerly non-contagious become contagious by evolution and *vice versa* by involution?" The fact that contagiousness is not specifically mentioned does not seem to us sufficient to outweigh the other conditions, pointing, it would seem, clearly to bubonic plague.

THE WAR IN THE TRANSVAAL.

We have heard a great deal of the British army medical department during our war with Spain. The probability at this time of writing that before this journal is issued England will be at war in the Transvaal will give us an opportunity of observing the medical arrangements and their practical value in something more approaching civilized warfare than was the Soudan campaign. We imagine, from the noted proficiency of the Boers in shooting, that much valuable material will be added to our knowledge of the effects of projectiles. But, however the system works, we feel sure that our British colleagues will personally acquit themselves creditably in their arduous duties.

PERMANGANATE OF POTASSIUM AS A DRESSING FOR BITES.

Dr. D. B. Das describes in the *Indian Lancet* the case of a woman, aged sixty years, who was said to have been bitten by a rabid dog. The wounds were very severe. "Almost all the soft structures of both the hands were wanting. Blood was flowing out in streams. . . . Hand, arm, body, face, and scalp all had got the same fate." The treatment consisted of washing with a lotion of thoroughly hot Condy's fluid, and subsequent dressing with equal parts of iodoform and potassium permanganate. The healing was prompt and satisfactory, notwithstanding the lacerated condition of the wounds. Dr. Das has previously used the same treatment in dog bite with excellent results. He asserts that there is less sloughing than is customary under this treatment.

VACCINATION IN ENGLAND.

The antivaccinationists have scant reason to rejoice over their success in practically nullifying the compulsoriness of vaccination in England, so far, at any rate, as a suppression of the "loathsome" process is concerned, for we learn from the *British Medical Journal* for September 30th that in the half year ending June 30th the total public primary vaccinations were no fewer than 355,987 as compared with 278,588 in the corresponding half of last year. In other words, there has been an increase of vaccination to the extent of about 27.78 per cent. in spite of the "conscience clause." The number of conscientious objectors, therefore, can scarcely be so large as the antivaccination leagues would have us believe.

THE MOUTH AND CHIN OF WOMAN AS AN INDEX OF CHARACTER.

According to the *Riforma medica* for September 14th, Dr. Weingarter is of the opinion that a woman's character can be completely known from a study of her mouth and chin. A round chin, downy in the fissure, betrays little force of will, love of pleasure and frivolity, and is typical of a kind, affectionate, polite, goodhearted woman, but extravagant, whimsical, and capricious. When the chin is small and mobile, and slightly projecting, it is a sign of a strong will. Such a chin marks a woman of more imagination than heart, desirous of excelling, with a mixture of sentiment and practical sense, with jealousy added. The mouth small, with the lips moderately full, the upper lip slightly projecting, is distinctive of a cold heart, suspiciousness, but little sentiment, a calm and reflective temperament, pride, ambition, and egoism. A mouth of proper proportions he considers to denote the exact opposite. The *Riforma medica* suggests this subject as a new field for research. Will the lady doctors give us some points on the character of men from similar observations?

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending October 7, 1899:

DISEASES.	Week ending Sept. 30.		Week ending Oct. 7.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	64	16	61	20
Scarlet fever	46	2	76	2
Cerebro-spinal meningitis	0	5	0	5
Measles	86	9	71	5
Diphtheria	158	20	151	23
Croup	8	6	7	3
Tuberculosis	99	118	130	143
Small-pox	0	0	1	0
Chicken-pox	3	0	4	0

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending October 7, 1899:

Small-pox—United States.

Chelsea, Mass	Sept. 23–30	3 cases.	
Everett, Mass	Sept. 23–30	1 case.	
Battle Creek, Mich	Sept. 16–23	Present.	
Maple Grove, Mich	Sept. 16–23	Present.	
Cincinnati, Ohio	Sept. 22–29	1 case.	
Dayton, Ohio	Sept. 23–30	1 "	
Portsmouth, Va	Sept. 23–30	1 "	
Seattle, Wash	Sept. 16–23	2 cases.	

Small-pox—Foreign.

Antwerp, Belgium	Sept. 9–16	2 cases.	
Dusseldorf, Germany	Sept. 2–9	1 case.	
Athens, Greece	Sept. 9–16	15 cases,	2 deaths.
Bombay, India	Aug. 29–Sept. 5		1 death.
Chihuahua, Mexico	Sept. 16–23.		2 deaths.
Mexico, Mexico	Sept. 3–17	6 "	6 "
Moscow, Russia	Sept. 2–9		1 death.
St. Petersburg, Russia	Sept. 2–9	2 "	1 "
Warsaw, Russia	Sept. 9–16		1 "
Straits Settlements, Singapore	Aug. 12–19		1 "

Yellow Fever—United States.

Key West, Fla	Sept. 29–Oct. 5	232 cases,	8 deaths.
New Orleans, La	Sept. 23–Oct. 4	18 "	2 "
	To date	33 "	10 "
Centreville, Miss	Sept. 29	2 "	
Jackson, Miss	Oct. 2	12 "	4 "
Mississippi City, Miss	From outbreak to Sept. 29	26 "	1 death.

Yellow Fever—Foreign.

Barranquilla, Colombia	Sept. 9–16	1 case,	1 death.
Panama, Colombia	Sept. 5–19	7 cases.	
Havana, Cuba	Sept. 15–22	10 "	4 deaths.
Santiago, Cuba	Sept. 9–16	3 "	1 death.
Tuxpan, Mexico	Sept. 11–25		11 deaths.
Vera Cruz, Mexico	Sept. 21–28		4 "

Cholera.

Calcutta, India	Aug. 19–26		5 deaths.
Madras, India	Aug. 26–Sept. 1		1 death.

Plague.

Magunde, Delagoa Bay, Africa	Sept. 22	Present.	
Niuchwang, China	Sept. 12, sporadic		5–10 deaths daily.
Alexandria, Egypt	Sept. 3–10	2 cases.	
Bombay, India	Aug. 29–Sept. 5		96 deaths.
Calcutta, India	Aug. 19–26		42 "
Koloborka, Government of Astrakhan, Russia	July 16–Aug. 12	24 "	23 " suspected.

The Medical Society of the County of Albany.—At the semiannual meeting, on Tuesday evening, the 10th inst., Dr. James W. Wiltse read a paper on The Ætiology and Treatment of Tuberculosis in Children.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Medicine, on Tuesday evening, the 10th inst., Dr. Irving P. Lyon presented a paper on Malaria, which was discussed by Dr. Stockton, Dr. Clinton, and Dr. John D. Howland.

Changes of Address.—Dr. Hugh H. Hagan, to No. 30 West Forty-fifth Street, New York; Dr. Charles H. Lewis, to No. 47 West Fifty-eighth Street, New York; Dr. Albert J. Wittson, to No. 221 West One Hundred and Twenty-second Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 16 to October 7, 1899:*

Alexander, James A., Acting Assistant Surgeon, United States Army, will proceed to Lands End, Port Royal, South Carolina, to relieve Howell, Evan P., Acting Assistant Surgeon, United States Army.

Bailey, Guy G., Acting Assistant Surgeon, United States Army, will proceed to Manila on the transport *George W. Elder*, instead of on the transport *Sikh*.

Collins, Christopher C., First Lieutenant and Assistant Surgeon, United States Army, is assigned to Madison Barracks, New York, for duty.

Godfrey, Guy C. M., Captain and Assistant Surgeon, United States Army, is assigned to duty at Pinar del Rio Barracks.

Hill, John S., Acting Assistant Surgeon, United States Army, will report to the commanding officer of the United States troops on the transport *Centennial*, for duty on that ship, relieving Kellogg, P. S., Acting Assistant Surgeon, United States Army, who will at once report to the commanding officer of the United States troops on the transport *Grant*, for duty during the voyage of that vessel to the Philippine Islands.

Keefer, Frank R., Captain and Assistant Surgeon, United States Army, now on duty in the Philippine Islands, is relieved from further station and duty at Fort Walla Walla, Washington.

Bailey, Guy G., Acting Assistant Surgeon, United States Army, will proceed to Manila on the transport *Sikh*.

Balch, Lewis, Major and Surgeon, United States Volunteers, will proceed to the Philippine Islands on the transport *Sheridan*.

De Niedeman, William F., Major and Surgeon, United States Volunteers, will proceed to San Francisco for duty.

Gonzalez, Stephen M., Acting Assistant Surgeon, United States Army, will proceed by the next United States transport sailing from New York to San Juan, Porto Rico.

Koerper, Egon A., Lieutenant-Colonel and Deputy Surgeon-General, United States Army, will proceed in the order named to Fort Leavenworth, Kansas, Jefferson Barracks, Missouri, Fort Riley, Kansas, and Fort Crook, Nebraska, and make a thorough sanitary inspection of the volunteer regiments and their camps now at the above-named posts. Temporary camps that may be established for purposes of target practice will be included in the inspection.

Porter, Elias H., Acting Assistant Surgeon, United States Army, will proceed to Fort Crook, Nebraska, for duty, to accompany the Thirty-ninth Infantry to Manila.

Powell, Junius L., Major and Surgeon, United States Army, will act temporarily as medical inspector of camps on the Presidio reservation, relieving Wilson, William H., Captain and Assistant Surgeon, United States Army.

Tilton, Henry R., Lieutenant-Colonel and Deputy Surgeon-General, United States Army, will inspect the camp of the Forty-fifth Infantry, United States Volunteers, at Fort Snelling, Minnesota.

Ware, Isaac P., Captain and Assistant Surgeon, United States Army, having been found incapacitated for active service on account of disability, has been wholly retired, and his name will be henceforth omitted from the Army Register.

Wells, G. M., Captain and Assistant Surgeon, United States Army, is granted leave of absence for twenty days, with permission to visit the United States.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Three Weeks ending September 30, 1899:*

Berryhill, T. A., Surgeon. Detached from the *Panther* and ordered to the *Monongahela*.

Bogert, E. S., Passed Assistant Surgeon. Ordered to the *New York*, October 3d.

Crandall, R. P., Passed Assistant Surgeon. Detached from the *Iowa* and upon relief to proceed home to await orders.

Guest, M. S., Passed Assistant Surgeon. Detached from the *Wabash* and ordered to the Philadelphia Naval Hospital.

Kindleberger, C. P., Passed Assistant Surgeon. Detached from the Philadelphia Naval Hospital and ordered to the *Iowa*.

Riggs, C. E., Passed Assistant Surgeon. Detached from the *New York* and ordered home to await orders.

Wright, B. L., Assistant Surgeon. Ordered to additional duty on the *Monterey*.

Blakeman, R. S., Passed Assistant Surgeon. Promoted to Passed Assistant Surgeon from May 27, 1899.

CRAWFORD, C. A., Assistant Surgeon. Detached from the *Massachusetts* and ordered to the *Eagle*.

DRENNAN, M. C., Medical Inspector. Detached from the naval recruiting rendezvous, Philadelphia, and ordered to Washington for examination for retirement, and then home to await orders.

GROW, E. J., Assistant Surgeon. Detached from the *New Orleans* and ordered to the *Massachusetts* immediately.

HANCOCK, F. B., Assistant Surgeon. Detached from the *Eagle* and ordered home to await orders.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending October 5, 1899:*

MURRAY, R. D., Surgeon. To proceed to Miami, Florida, for special temporary duty.

GARDNER, C. H., Passed Assistant Surgeon. Granted leave of absence for two days.

CORPUT, G. M., Assistant Surgeon. To report to medical officer in command, Baltimore, for duty and assignment to quarters.

FOX, CARROLL, Assistant Surgeon. Relieved from duty at Baltimore and directed to report to medical officer in command of the Reedy Island Quarantine Station for duty and assignment to quarters.

PRIMROSE, R. S., Acting Assistant Surgeon. Granted leave of absence for six days.

MILLER, CHARLES, Hospital Steward. Granted leave of absence for twenty-one days from October 8th.

Society Meetings for the Coming Week:

MONDAY, *October 16th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *October 17th:* New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, New York, Medical Association; Syracuse, New York, Academy of Medicine; Medical Societies of the Counties of Kings, St. Lawrence (semiannual), and Westchester (White Plains), New York; Hunterdon, New Jersey, County Medical Society (Flemington); Baltimore Academy of Medicine.

WEDNESDAY, *October 18th:* Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

THURSDAY, *October 19th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, *October 20th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society (annual).

Paregoric in Seasickness.—Poussié (*Revue médicale*, May 17th; *Indépendance médicale*, June 21st) speaks highly of his experience during many years' service in the mercantile marine of paregoric in seasickness, which has succeded better in his hands than any other of the ordinary measures. The author prescribes the tincture in doses of half a coffeespoonful in a little water. Attention is called to the difference between the French and English preparations, the latter of which is weaker, and consequently requires to be used in slightly larger dose.

Births, Marriages, and Deaths.

Born.

DONEHOO.—In Elliottboro, Pennsylvania, on Tuesday, September 26th, to Dr. and Mrs. R. S. Donehoo, a daughter.

Married.

CHERRY—DOWDNEY.—In New York, on Wednesday, October 4th, Dr. William S. Cherry and Miss Maud Dowdney.

HAVEN—WINTHROP.—In Greenwich, Connecticut, on Thursday, October 5th, Dr. Henry Cecil Haven, of Boston, and Mrs. Isabelle C. Winthrop.

KNOWLES—ROCKWELL.—In Flushing, Long Island, on Saturday, October 7th, Mr. William W. Knowles and Miss Susie May Rockwell, daughter of Dr. A. D. Rockwell, of New York.

PAGE—ENSIGN.—In Orange, New Jersey, on Tuesday, September 26th, Dr. Peirson Sterling Page, of Springfield, Massachusetts, and Miss May Wickes Ensign.

PAULDING—MCILVANE.—In New York, on Thursday, July 6th, Dr. Edward Paulding and Miss Margaret McIlvane.

PELL—MORRIS.—In New York, on Monday, October 9th, Mr. Francis Livingston Pell and Miss Ellen Van Buren Morris, daughter of Dr. Stuyvesant Fish Morris.

ROBISON—GALBRAITH.—In Buffalo, on Wednesday, October 4th, Dr. Joseph H. Robison, of Bradford, Pennsylvania, and Miss Lettie R. Galbraith.

WOODHULL—HEWITT.—In Red Wing, Minnesota, Mr. James Clifford Woodhull and Miss Charlotte Althea Hewitt, daughter of Dr. Charles N. Hewitt.

Died.

FAIRBROTHER.—In New York, on Thursday, September 28th, Letitia Fairbrother, wife of Dr. Charles M. Fairbrother.

HANSON.—In Donaldsonville, Louisiana, on Saturday, September 30th, Aline L. Hanson, wife of Dr. T. H. Hanson.

JACOB.—In New York, on Tuesday, October 3d, Dr. Paul W. Jacob.

KNAPP.—In Hackensack, New Jersey, on Sunday, October 1st, Agnes M. Knapp, wife of Dr. Louis P. Knapp.

LOWE.—In Brookline, Massachusetts, on Saturday, September 30th, Dr. Lewis G. Lowe, in the seventy-second year of his age.

THOMAS.—In New York, on Thursday, September 28th, Dr. Francis A. Thomas, in the seventieth year of his age.

WALLACE.—In Old Lyme, Connecticut, on Monday, October 2d, Dr. W. H. H. Wallace, in the forty-third year of his age.

WAYSON.—In Baltimore, on Tuesday, September 26th, Dr. George W. Wayson, in the eightieth year of his age.

Letters to the Editor.

THE CLIMATE OF ASHEVILLE FOR MALARIAL DISEASE, TUBERCULOSIS, ETC.

ASHEVILLE, N. C., *September 14, 1899.*

To the Editor of the New York Medical Journal:

SIR: For four years Miss Pauline P., now aged ten, suffered from a most distressing kind of malarial poisoning. The plasmodia were repeatedly demonstrated. The red corpuscles greatly reduced—destroyed. She lived then in St. Louis. Her physician exhausted the drugs suitable in such conditions. Quinine, nitric acid, hydrochloric acid, arsenic, and numerous other drugs were administered faithfully only to secure temporary relief. Relapse would follow in regular periodicity. The dry climates of Texas and Colorado were tried, and there the disease at first developed violent fever and then subsided somewhat after weeks or months of sojourn to reappear on her returning to malarial localities. But at those great altitudes she suffered much more while ill than in low altitudes.

At last, on counsel of physicians in charge, she migrated to Asheville, North Carolina, where the altitude is medium and the air not so exceedingly dry as in the climates above mentioned. Here she was not under treatment three weeks ere all symptoms disappeared without that fever explosion just stated. She has grown from a thin, pale little girl, unable to attend school, to a robust, rosy, active student—all in eight months' time.

I have watched the progress of other similar cases which were as striking.

Nor is it only in malarial disease that this climate seems so beneficial. Tuberculous patients and dyspeptics seem to invariably improve, and many are the apparently healthy people one meets daily on the streets and among residents who came here five, ten, twelve, twenty years ago, given up by their physician and friends. Now some of them are in business here; others come once in a while to avoid the most disastrous seasons of the year at home.

The beauty of the conditions is that the altitude is a "golden mean," neither too high nor too dry, so that one may recover and return home to less favorable climates. On making researches I have found some unquestionable evidence of this fact, and many physicians of the East and North have grasped the importance of this truth.

Of course, climate does not cure every case, and indeed none should depend on climate alone, for each case needs to be put on its own merit and be directed and managed accordingly. Those who fail to receive benefit are chiefly those who "know it all"; buy medicines right and left, according to their notions; spend their time at the billiard table or the saloon; overdo in exercise, mountain climbing, etc. As Sir Hermann Weber, M. D., F. R. S., well says: "Climate by itself, without careful medical supervision, is generally insufficient. The patient's blind reliance on climate often leads to errors, to aggravation of the disease, and to death." This he said with reference to consumption, but it applies in other affections benefited by climatic influences. So thoroughly convinced am I of the value of the climate of Asheville, properly utilized, that I look for this locality to become the most popular natural sanitarium in the country, and have concluded to carry on my professional work and investigations here in the future, in the line of chronic affections. I trust to have a series of specific reports ready within the year.

PAUL PAQUIN, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XL.

CRIMINAL LIABILITY.

(Continued from page 532.)

Pregnancy not Necessary for Commission of the Crime; Statutory Exceptions.—In harmony with the above decision, and probably based upon the same reason—viz., that the chief aim of the law is to protect the woman from injurious attempts to cause her to miscarry—is the rule that it is not essential that the woman shall, in fact, be pregnant when operated upon, in order to render the person attempting to produce her miscarriage criminally liable.* This rule can not, of course, exist where the statute under which the attempted abortion is sought to be punished expressly provides that the woman shall be pregnant; such statutes sometimes provide that it shall be a crime to produce or attempt to produce an abortion upon a woman "pregnant with child." In such a case it is an essential part of the crime that the person upon whom the attempt has been made was in fact so pregnant, and if the prosecution fails in showing this condition to have existed the accused can not be convicted even though it is clearly shown that he has attempted to produce an abortion. Nor will it make any difference in the necessity of proving the pregnancy that a new law may have been enacted obviating this necessity by eliminating the words "pregnant with child," after the time of the alleged attempt to perform an abortion and before trial,† it being a constitutional guarantee that no person shall be convicted of a criminal act upon less evidence or evidence inferior to that which would have been requisite to a conviction at the time the alleged criminal act was committed.

Vitality of Fœtus not Essential to Commission of the Crime.—It has been contended that if the fœtus had lost vitality at the time the act intended to cause a miscarriage was committed, this will relieve the defendant of criminal liability. Upon this question we have two cases nearly contemporaneous—one from the supreme court of Massachusetts, decided in 1858, and one from the supreme court of Vermont, decided in 1859, which at first blush appear to be in conflict. The Vermont case lays down the rule squarely that where a physician attempts, with unlawful intent, to produce an abortion, it is no defense that it may be subsequently discovered that the fœtus had lost vitality previous to the operation or that the case was one in which it would have been necessary to destroy the fœtus to save the mother. If the physician did not know this fact at the time of treating the patient and attempted to produce the miscarriage for other than a lawful purpose, he is criminally liable.* In the Massachusetts case † there appears at first glance to be a more lenient application of the law. There the court says that if there had been evidence that the fœtus had lost its vitality, it might have been the duty of the judge to say directly to the jury that, if they so found, the case was not within the statute. Upon examining the case more carefully, however, it is apparent that the court had in contemplation the effect that would have been produced by the introduction of evidence on behalf of the defendant to show the existence of a condition justifying and requiring the operation performed. In such a case, it is apprehended, the question of intent upon the part of the defendant at the time he administered the drug or performed the operation would properly be submitted to the jury for determination, and that they should properly find him guilty or innocent accordingly as they determine his motive and purpose to have been to unlawfully relieve the mother of the burden of bearing the child, or to save her from the impending danger. With this interpretation it will be observed that the Massachusetts case is in complete harmony with the Vermont case.

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* Regina *vs.* Goodchild, 2 Car. and K., 292; Com. *vs.* Taylor, 132 Mass., 261.

† Com. *vs.* Grover, 82 Mass., 602.

Justification for Performing.—These cases bring us to an examination of the question of when a physician is justified in performing an abortion. The statutes of many States, in making it a crime to procure an abortion, expressly except those cases in which the abortion may be necessary to preserve the life of the mother, or shall have been advised by one (sometimes two) physicians to be necessary for such purpose. The proper construction of such an act seems to be that if the physician operating believes the performance of an abortion necessary to save the mother's life, and acts upon this belief without availing himself of counsel and obtaining the advice of the number of physicians named in the statute of his State that such operation is necessary, he is not exonerated unless he is correct in such belief. But if he calls in counsel, and, after proper examination, they advise him that the operation is necessary, he is then justified in performing it, and will be held harmless whether his advice was correct or not. It is apprehended that the law is substantially the same in those States having no provisions in their statutes for securing the advice of other physicians as to the necessity of performing such an operation. The fact that the preservation of the mother's life requires that a miscarriage be performed upon her is always a justification for producing an abortion, whether the statute expressly so provides or not; if, however, the physician performing the abortion assumes the responsibility of determining that the operation is necessary, and acts upon his own judgment, he will be bound at his peril to judge correctly; but if he acts in good faith in securing a consultation he will then be protected in acting upon the advice of the consultants, whether their opinion of the patient's condition is, in fact, correct or not. Should the physician's good faith in obtaining the consultation be questioned, it would then be for the jury to determine, from all the attendant circumstances, whether the consultation was a mere sham and collusive pretense made to give color of legality to an unlawful act, or was, in fact, an honest effort made to determine the patient's actual condition with a view to rendering to her such medical services as her real needs required. Probably the physician's best safeguard against an attack of this sort is the exercise of a wise discrimination in the choice of consultants, for if a consultation is secured with consultants whose professional integrity is irreproachable, no imputation of bad faith can be safely made, much less maintained.

The supreme court of Massachusetts, in a case before them some years ago,* expressed their approval of an instruction given to the jury in the trial court, wherein the legal duty of the physician in an emergency of the sort in contemplation was said to be at a much lower standard than that above fixed. Therein the trial judge said: "A physician may lawfully procure the miscarriage of a woman pregnant with child by any means applicable and reasonable for that purpose, directly or indirectly, if in so doing he acts in good faith for the preservation of the life or health of such pregnant woman. The justification of a physician thus acting must depend upon his exercising his best skill and judgment, and in the honest belief that the acts directly applied to produce a miscarriage, or applied to the treatment of a disease so as to involve a miscarriage as a not unusual incident of such treatment, are necessary to save such pregnant woman from great peril to her life or health."

While the standard upon which this instruction is based is the one underlying nearly the whole law of civil and criminal liability, yet it can not be safely advised that the courts will in similar cases follow the opinion therein expressed. Moreover, should this opinion be followed, the question of fact to be determined by the jury of whether or not the physician did exercise "his best skill and judgment" and act "in the honest belief" that such operation was necessary, will be a perilous one which will be eliminated from all cases in which the physician observes the legal duties herein first laid down.

The necessity of destroying the child to save the mother's life, as contemplated by the statute, applies to those cases only where the death of the mother can reasonably be anticipated to result from natural causes unless the child is destroyed. For example, it is evidently not within the meaning of the statute that the physician's conduct in destroying the child is justified as necessary to save the mother's life when the only reason to anticipate the mother's death from a continuation of her condition of pregnancy is that she has threatened to commit suicide if she is not operated upon.† Nor is the consent of the mother to the operation, nor a desire to screen her from exposure and disgrace, any justification for the act.‡

Burden of Proving Existence or Non-existence of Necessity for Operating.—Whether it is necessary for the State to prove as an essential feature of the case of the prosecution that an abortion was not necessary to save the life of the mother, or whether, on the other hand, this fact will be presumed and the burden of proving that such operation was necessary to the mother's safety devolve upon the defendant, should he desire to make such a defense, is a question upon which the courts are divided.

The general rule of evidence regulating the burden of proof is that the burden or requirement of proving any fact lies upon the party who substantially asserts the affirmative of the issue. This rule is, however, subject to a number of well-recognized exceptions, among which is the rule that when a statute, in creating or defining an offense, makes negative matter or a negative condition a material element of the offense described, then this negative condition must be proved by the party enforcing the operation of the statute. That the statutes of the several States prohibiting the production of abortion, as usually worded, come within this exception, seems evident; yet in apparent conflict with this rule, at least in the present case, is the rule that where facts are peculiarly within the knowledge of either party to a suit the burden is upon that party to prove them.

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* State *vs.* Howard, 32 Vt., 380.

† Com. *vs.* Wood, 77 Mass., 85.

* Commonwealth *vs.* Brown, 121 Mass., 69.

† Hatchard *vs.* State, 79 Wis., 357.

‡ Com. *vs.* Wood, 77 Mass., 85; Com. *vs.* Snow, 116 Mass., 47.

The supreme court of Oregon, in a well-considered opinion, denies the application of the last rule mentioned to this class of cases. The court, speaking through Justice Thayer, says: "The relative convenience of the parties to make the proof ought not, it seems to me, to be taken into consideration; but, in any event, no such rule should be applied to a criminal case, where the accused is presumed to be innocent, and the prosecution is required to prove him guilty beyond a reasonable doubt. . . . Proof that a physician, in his professional treatment of a woman pregnant with a child, had used means, with the intent thereby to destroy the child, and the death of the child was thereby produced, is not evidence that the treatment was not necessary to preserve the life of the mother; nor, if it produced the death of the mother, that it was not an honest effort on the part of the physician to preserve her life. The experience of mankind shows that cases have often arisen in which such treatment has necessarily been resorted to, and, in the absence of other proof, the law, in its benignity, would presume that it was performed in good faith, and for a legitimate purpose. The extent of proof to establish the negative averment in such a case would necessarily be limited by the circumstances. It could not, in the nature of things, be made positive, except as aided by the fact that the accused was able to refute it absolutely, if untrue, and had failed to attempt to do so." * The supreme court of Minnesota, in examining a question very nearly related to this one, indicated its disposition to hold the law as above laid down,† while the supreme court of Ohio very clearly expressed its opinion that it was incumbent upon the State to prove that the producing of the abortion was not "necessary to preserve the life of such mother." The ground, however, upon which this court arrived at this conclusion was that the facts showing whether or not it was necessary to perform the abortion to save the mother's life were not peculiarly within the knowledge of the defendant. Upon this point the court, speaking through Chief-Justice Day, said: "The circumstances attending the procurement of an abortion, tending to prove that it was unnecessary for the purpose of preserving the life of the mother, ordinarily can be shown quite as easily upon the part of the prosecution as it can be proved by the defendant that it was necessary for that purpose." The negative of the fact that the abortion was advised by two physicians, the court holds, for a like reason, is not necessary to be proved by the State. Here the fact that the physician obtained the advice of two physicians of the necessity of the operation, if indeed he did, is one which is peculiarly within his knowledge and one of which it might be impossible for the State to prove the negative.*

Upon the other hand, it is held in several well-considered cases that it is not incumbent upon the State to show that the operation is not necessary, but that this is a matter of defense peculiarly within the knowledge of the defendant, which he must prove if available.

The supreme court of New York lays down the rule unqualifiedly that it is not for the State to prove the absence of a necessity for performing the operation, but that this is a matter of defense which must be affirmatively proved by the defendant.† The same rule is adhered to in the State of Wisconsin.‡

(*To be continued.*)

Pith of Current Literature.

Gonorrhœal Salpingitis. — Mr. J. W. Taylor, F. R. C. S. (*British Gynæcological Journal,* August), in a paper recently read before the British Gynæcological Society, submitted the following propositions which he was "disposed to maintain, and on which he invited the criticisms of his colleagues": 1. That a large number of women who are suffering from tubal disease have been at some time or another exposed to the infection of syphilis as well as of gonorrhœa. That these undoubtedly show marked improvement after a prolonged course of mercury and iodides, and in the course of this treatment, unles acute pyosalpinx intervenes (in which medicine is useless), it is the rule rather than the exception for all gross physical signs of disease to slowly and permanently disappear. 2. That many cases in which there is no history of syphilis, including cases in which there is an unmistakable history of gonorrhœa pure and simple as the sole cause and starting-point of tubal disease, do similarly improve and get permanently well under the same course of treatment, provided always that the disease stops short of acute pyosalpinx and its dangerous complications. 3. That acute pyosalpinx is peculiarly liable to occur in the first place on the left side of the body, and its special severity is probably due to secondary infection from the rectum. That cases of pyosalpinx, whenever possible, should be treated by free incision of the posterior vaginal fornix, by thorough exploration and emptying of all pus cavities from the pouch of Douglas, and by iodoform gauze drainage. That this is far preferable to the older operation of removal of the appendages, which is not only much more dangerous, but is peculiarly liable to be followed by fæcal fistula, an operation sequel sometimes worse than death itself. 4. That such cases of mixed infection and acute suppuration treated by operative evacuation of the pus, with or without removal of the appendages, do sometimes not only recover but remain permanently well without further treatment, the acuteness of the inflammation appearing to terminate the process of infection. In other cases, recovery is not so complete or relapses are met with, and these cases should be followed up by a course of specific treatment, the beneficial result of this being often immediately manifest when the wound tissues are unhealthy and the healing is delayed. 5. That occlusion of the tubes and peritubal adhesions consequent on gonorrhœal adhesions have no direct specific causation, and must be regarded rather as secondary mechanical results of the local peritonitis which has been caused by salpingitis. Their absorption and disappearance will not therefore be necessarily secured by the cure of the gonorrhœa, and sterility may persist although gonorrhœa is entirely eradicated from the system. 6. That in gonorrhœa of the pelvis there will probably remain a residuum of intractable cases, particularly cases of complication with other diseases, such as fibroids of the uterus. That in these cases operative removal of the organs affected will still be required, and that vaginal hysterectomy whenever possible, with or without extirpation of the uterine appendages, is not only the most rational operation in theory, but is productive of the best final results.

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* State *vs.* Clements, 15 Ore., 237, 14 Pac. Rep., 410.

† State *vs.* McIntyre, 19 Minn., 93.

* Moody *vs.* State, 17 Ohio St., 110.

† People *vs.* McGonigal, 17 N. Y. Supp., 147, 136 N. Y., 62; Bradford *vs.* People, 20 Hun, 309.

‡ Hatchard *vs.* State, 79 Wis., 357, 48 N. W. Rep., 380.

Frambœsia or Yaws.—Seeing that this disease is more or less indigenous to some of our new possessions—viz., the West Indies and the Malay Peninsula (which is in communication with the Philippine Islands)—it may not be amiss here to reproduce the excellent summary of it which appears in a supplement to the *Journal of Tropical Medicine* for September. The *Journal* says:

"In different parts of the tropical world an exanthematous disease, contagious in character, ushered in by some fever accompanied by rheumatic pains, and marked by an eruption of tubercles, which become in time moist, fungoid masses, is known by several local names. The name frambœsia has been bestowed upon the ailment in consequence of the supposed resemblance of the eruptive masses to a raspberry (*framboise* = a raspberry). The French and Germans designate the disease as pian; in Ceylon it probably falls under the heading of parangi; the Fijians term it coko; it is probably also the purra of the Malays; and some even claim that the 'button scurvy,' which up to the year 1851 was not infrequent in Ireland, belonged to this category. These names imply a widely spread geographical distribution to the disease. It has been recognized in the West Indies, tropical Africa, Ceylon, Java, Fiji, and Samoa, and in the Malay Peninsula and Assam. In Fiji, in tropical Africa, and in the West Indies *epidemics* of the disease are frequent, and Dr. Daniells states that the Fijians inoculate their children against the disease.

"The *incubation* period is a lengthy one, but, owing to the mildness of the initial constitutional disturbance, its duration is indefinite. From two to ten weeks of incubation are assigned as the usual limits, but six months even are mentioned as a possible incubatory period. Inoculations have an incubation period of from twelve to twenty days. The *premonitory symptoms* are variable, but usualy mild and fleeting; they may, however, occasionally be severe. An initial fever, at one time denied, is in the majority of instances attended by but a slight increase in temperature, but pains in the limbs and a general feeling of being 'out of sorts' are always present. The characteristic *eruption* does not appear at once, but changes in the skin gradually lead up to the typical raspberrylike masses from which the disease derives its name. First, furfuraceous patches appear on the skin of the trunk or limbs, or both; the patches may coalesce and give rise to a general furfuraceous desquamation. It frequently happens that this stage may be so slight as to be overlooked. Secondly, papules appear beneath the epidermis and, gradually increasing in bulk, push their way up to the surface. Thirdly, the papules now become of the nature of tubercles, consisting of elevated nodules with a yellow top about the size of a pin's head. The yellowness, however, is not due to pus, but to an aggregation of a cheesy material in the apex of the enlargement. At this stage many of the tubercles abort, but the majority rather suddenly increase in size, become fungous in character, pink in color, and accompanied by a foul-smelling secretion, of a glutinous consistence and a dirty yellow color. Fourthly, the yaw shrinks, a brown scab takes its place, or an ulcer may succeed, and a stain or cicatrix, according to the depth of the pitting, results.

"The face and neck is a favorite site of yaws, and around the mouth and nostrils the tubercles may assume the character of a row or fringe. Even the mucous membrane of the mouth may be affected immediately within the lips. On the trunk and limbs the eruption is more frequently discrete in character, but around the anus and on the genitals the tubercles may coalesce into groups, ridges, or ragged fringes. The sole of the foot may be attacked, and the bursting of the tumor through the thickened epidermis causes considerable pain and swelling. The finger and toe nails are liable to be involved, causing troublesome onychia.

"The *duration* of an attack of yaws varies; it may disappear within two months, but, on the other hand, recurring crops may continue the disease for twelve months; an average attack lasts three months.

"The *prognosis* is, in fairly healthy people, favorable; but in persons weakened by any constitutional complaint the joints are apt to become swollen, ulcerated, and stiffened; chronic ulcers may form, which may assume phagedænic characters; septicæmia may carry off the patient, or he may die of pure asthenia.

"The *treatment* of frambœsia is both general and local. Good food, frequent bathing, and attendance to the sanitary environment of the patient are essential. The local application of disinfectants, either lotions, powders, or dressings, is all that is necessary; attempts at destruction of the individual growths are futile. Iodide of potassium or small mercurial doses, or both combined, seem to exercise a beneficial effect upon the eruption. Hygiene and not inoculation is the keynote of prophylactic treatment."

Kala-azar.—The *British Medical Journal* for July 29th, commenting on the report upon kala-azar, a full abstract of which appears in the *Indian Medical Gazette* for July, says that this is the third report which the Indian government has received on the subject. The first was by Major Giles, who came to the conclusion, as a result of his investigation, that the chief characteristics of the disease were anæmia and dropsy, and that the cause was the presence of large numbers of ankylostomes in the intestine. In this connection Major Giles worked out the life history of the intestinal parasite, and showed that mud rather than water was the chief medium for its propagation and spread. The next report was made by Captain Rogers, whose researches led him to disagree with the conclusions arrived at by Major Giles, and to consider kala-azar as essentially a malarial disease which had acquired infectious properties. With these two opposing and somewhat confusing opinions on record, the government of India employed Major Ross, whose work on malaria rendered him peculiarly fitted therefor, to work out this problem. Unfortunately, the time at Major Ross's disposal extended over only six weeks, so that he was unable to enter into the subject in the thorough manner that it deserves. His observations have, however, been sufficient to lead him to concur with the views of Captain Rogers. He shows that kala-azar may be divided into three stages, the characteristics of which are: 1. Recurrent attacks of high fever with rapid enlargement of the spleen, and generally also of the liver, in the first stage. 2. Great tumefaction of the organs, with low fever, in the second stage, 3. Cachexia, with gradual decrease of the organs, disappearance of the fever, and frequently intercurrent attacks of pneumonia or dysentery, in the third stage. The first stage, Major Ross believes, is chiefly that of the parasitic invasion; the second stage, that of the secondary effects of the invasion; the third stage, that of the tertiary effects—namely, the result of the secondary effects. He was not able in the time at his disposal to assure himself regarding the species of the malarial parasite which causes kala-azar. Whatever species it may be due to, he conceives the disease to be a form of paludism in which the infection falls with a very heavy incidence on the spleen and the liver, especially the latter. He considers that the enlargement of these organs and the low fever are the chief cause of the exceptional mortality. As regards the power of communicability and epidemicity of kala-azar, he does not agree with Captain Rogers's view that this is due to an intensification of the virulence of the malarial parasite, but holds that it may be explained in the same way as the communicability of ordinary malarial fever. Recent researches have shown that malarial fever is communicable by the agency of insects, and Major Ross thinks that this is sufficient also for kala-azar. It must be confessed, says the *Journal*, that, although the report is a remarkably able one and carries the reader along from the first to the last page, yet the gaps are still so wide that it is a matter of regret that Major Ross was not able to spend a year instead of six weeks on this investigation. In this respect the conclusions are unsatisfactory, and were they not confirmatory of a longer investigation by Captain Rogers, there would be justification for the criticism that though the arguments from analogy are fascinating, yet there is not sufficient material to establish the view so ingeniously set forward.

The Influence of Humidity upon the Human Organism.—M. Lerachoff (*Revue d'hygiène et de police sanitaire*, August; *Lyon médical*, September 3d) has studied in conjunction with M. Rubner the influence of extreme degrees of relative humidity of the air at temperatures of from 59° F. to 84° F. upon the general condition, the pulse, the respiration, and the temperature of the body. To saturate the air with aqueous vapors it was passed through metal cylinders filled with layers of pumice stone moistened with water. To dry the air it was made to traverse cylinders filled with calcium chloride. The author used Pettenkofer's respiratory apparatus in his experiments. From his tests he finds that dry air is easily borne even at a temperature of 84° F. Its action is tonic; the pulse becomes full and hard, respiration is easy, and perspiration increases. Dry air acts probably still better upon those with pulmonary affections, for to the normal action of dry air upon the organism is in the these cases superadded its inhibitory effect upon micro-organisms. The rôle played by the climates of San Remo, the Riviera, and Davos Platz in diseases of the lungs is thus easily explained by the dryness of their atmospheres.

Moist air, he says, has exactly the opposite effect. At a temperature of 84°F. it becomes very disagreeable and painful, and provocative of thirst. The temperature as well as the pulse have a tendency to rise, and the latter becomes feebler and easily compressible. Ordinarily, the augmentation of the humidity of the air is accompanied by an increase of its contained carbonic acid; but the disagreeable sensations experienced in a confined atmosphere are, he says, due rather to its exaggerated humidity than to the carbonic acid, whose quantity, even in a vitiated atmosphere, is very slight. Dry air he finds never to cause disagreeable sensations, and if such are associated with artificial heating, they are due to the presence of dust in the air. These researches, says the *Revue*, thus supply a scientific basis for facts already established.

The Local Treatment of Puerperal Infection.—Dr. Arnold Lea (*Medical Chronicle*, August), in a paper on this subject in which he gives an analysis of forty-eight cases, arrives at the following conclusions: 1. A rise of temperature over 101.4° F. during the puerperium, not obviously accountable for by other causes, should lead to a thorough examination of the genital passages. 2. If no sufficient explanation is found in the condition of the perinæum or vagina, a uterine douche should be at once given, with due precautions. 3. If within twenty-four hours the temperature has fallen definitely, no further exploration is required, but the douche may be repeated if the temperature again rises. 4. If at the end of twenty-four hours the temperature is higher, and the pulse rate has increased, the cavity of the uterus should be explored with the sterilized finger. 5. If the initial rise of temperature is great (103° F. or over), with or without a rigor, the uterus should be explored at once, without waiting twenty-four hours to observe the effect of a douche. This is more especially indicated if the uterus is bulky, showing delayed involution, since this points to putrefaction of retained products, or to septic endometritis. 6. If clots or placenta are discovered, they should be removed by the finger or curette, a douche given, and a gauze drain inserted for twenty-four hours. 7. In the great majority of cases it is wiser to thoroughly curette the uterus with the object of removing the whole of the decidua and retained products. 8. There is no evidence that curettage, if done with every precaution, favors the spread of infection. In a large proportion of cases the infection is rapidly checked. 9. In very virulent infection *early* curetting, with the object of sterilizing the uterine cavity, affords the best chance of a successful result. 10. If curettage entirely fails, it must be repeated or not, according to the local condition present. The prognosis, however, in the absence of a definite localization of the infective process, is bad. 11. In some cases, if curettage fails, and there is no evidence of general peritonitis or of infection of the blood stream, vaginal hysterectomy, if performed in good time, may be successful. 12. Antistreptococcic serum should be given early and freely in cases of *proved* streptococcic infection. It is of little use in the advanced stages of the disease.

The Centenary of the Royal College of Surgeons of England is to be celebrated in due form next year. The charter of incorporation is dated March 22, 1800.

The Significance of Epistaxis as an Early Symptom of Softening of the Brain and the Relation of Both Diseases to Arteriosclerosis.—Karl Kompe (*Archiv für Laryngologie*, Band ix, Heft 2, 1899; *Laryngoscope*, September), after a history of five cases, gives his reasons for thinking that epistaxis may be a symptom of the earlier stages of arteriosclerosis, and hence a forerunner of cerebral softening (encephalomalacia). It is established that sclerotic changes are very apt to be set up in the carotids, especially the internal, as early as anywhere in the arterial system. These changes most readily pass along into the ramifications of the carotids. The ethmoidal artery, a branch of the ophthalmic, being thus derived from the internal carotid, supplies the upper and anterior nasal structures; while the sphenopalatine, a branch of the internal maxillary, and therefore a derivative of the external carotid, supplies the posterior portion. These vessels being among the first to become weakened may easily give rise to severe and frequent epistaxis. The intima becoming first affected, the blood seems to lose its coagulability, and in addition to this the elasticity and retractile power of the arterial coats being lost, there is no good reason why a hæmorrhage should not continue almost to exhaustion. As a matter of fact, plugging the nares is often necessary. All practitioners, and especially laryngologists and rhinologists who are most frequently called to these cases, are urged to make a careful examination of the arterial system. This is of special importance, as treatment in the early stages does seem to accomplish some good, while later on it is of no avail.

Early Diagnosis in Pulmonary Tuberculosis.—Dr. S. G. Bonney (*Medical News*, September 30th), in a paper read at the meeting of the American Climatological Association, would especially condemn: 1. Delay in instituting any physical examination whatever until long after the development of pronounced constitutional and pulmonary impairment. 2. Failure to examine upon the bare skin, the presence of clothing effectually preventing any approach to accurate results. 3. Neglect to examine the entire chest, the bases, interscapular spaces, and axillary regions being frequently overlooked. He would deplore particularly the existence of: 1. Erroneous conceptions concerning the significance of the absence of percussion dullness at the apices, an active process often being capable of recognition by auscultation considerably before the evidences of consolidation are apparent. 2. The non-recognition, in the absence of râles, of the various modifications in disease of the normal respiratory sounds. 3. Inaccurate interpretation of localized diminished intensity of auscultatory sounds, elevation of pitch, harshness of quality and prolongation of expiration. He would severely criticise: 1. Failure to utilize cough preceding forced inspiration in eliciting the presence of slight moisture in the finer tubes. 2. The non-appreciation of the almost pathognomonic significance of a circumscribed bronchiolitis, even in the absence of dullness or other auscultatory signs.

Evolution of Lines of Sight.—Dr. Chalmers Prentice (*Lancet*, June 17th; *Medical Review of Reviews*, August) gives some interesting observations about the evolution of the lines of sight in binocular vision. He has noticed that herbivorous animals generally have divergent eyes, and can not look at an object with both eyes at the same time. In many birds the eyes are so situated as to look nearly in opposite directions. Such birds and beasts present the side of the head to an object to get the best view of it. Carnivorous animals have not nearly so divergent eyes as are found among the herbivora, and binocular vision is usually possible for them, but their eyes have a constant tendency to diverge, and are kept in visual alignment only by tonic contraction of the internal rectus muscles. Dr. Prentice has observed a slight, quick converging movement in the eyes of lions and tigers as they lay languidly closing and opening their eyes. After death animals present considerable divergence of both eyes.

Dr. Prentice found by testing the eyes of a thousand North American Indians with a prism, base down, to create a vertical diplopia, that in them, as well as in eight hundred uncivilized African negroes similarly tested, there is a general tendency of the eyes to diverge. In the entire eighteen hundred aboriginals, three cases only of convergence were met with. Thinking that the eyes might show the true anatomical condition after death in civilized man, the doctor has made a record of over three thousand cases, and has discovered that the eyes turned outward almost without exception in twenty-four to forty-eight hours after death. He has not found a single case where the eyes of the dead appeared perfectly straight. In seventeen cases he has examined the same persons before and after death, in all of which having normal vision and perfect alignment of the optic axis during life, there was yet divergence after life had ceased.

From the above facts, the doctor thinks that even in civilized man there is a tendency to diverge, which is overcome and, in cases of convergent strabismus, turned into a functional convergence by a fixed, tonic spasm or innervation of the internal rectus muscles. That this functional convergence is not due to any anatomical shortness of the internal muscles is shown by the fact that the eyes of the blind invariably diverge to some degree. The doctor concludes that the eyes of civilized man are in a state of evolution as yet incomplete, requiring nerve energy to bring about normal binocular vision. The necessity for the use of the eyes for near objects in the various pursuits of civilization make functional convergence and accommodation still more of a strain on the innervation of the ocular muscles than is requisite for binocular distant vision. The partial relaxation possible in sending patients away for "change of air" may be a factor of relief in nervous persons, substituting open country for city blocks and distant vision for close accommodation. "If the evolution of the optic axes now going on under civilization were complete, the nerve energy now required to maintain binocular vision could be utilized in performing other functions more perfectly, thus adding comfort and years to life. How much this strain is, or how much life is shortened and our peace and happiness disturbed by it, it is impossible to calculate; but it must be great, from the fact that the nerve centres of vision are so extensive; in fact, they are many times greater in area than those which furnish energy for our legs, and the legs may use more than a million foot pounds of energy in a day."

Mosquitoes in Relation to Malaria.—Dr. Ian Macdonald, assistant medical officer to the Rio Tinto Company, Spain (*British Medical Journal*, September 16th), has instituted observations with reference to the presence or absence of mosquitoes in certain localities.

The district, as a whole, over which his observations extend embraces an area of sixty miles, reaching from the southern part of the Spanish Sierra to the Atlantic. He has examined, in all, twelve districts; of these, nine have endemic malaria; the remaining three may be considered free from fever. Isolated cases do occur in two of them, but the author has always been able to trace the infection to a night or more passed in the fever zone beyond them. The remaining one on the sea coast is quite free from malaria.

The following shows the mosquitoes he has identified up to the present, and their distribution in the different localities:

Three Healthy Districts. — *Culex elegans, Culex phytophagus, Culex pipiens, Culex spathipalpis,* from larvæ and found as adults. *Culex penicillaris,* adult specimen only; seacoast (pines).

Nine Malarial Localities.—The first four already mentioned; with also *Anopheles claviger* in all nine, *Anopheles pictus* in three, and *Anopheles bifurcatus* in one (one adult).

Most of the malarial villages are situated on the face of a hill, with small ravines or partially dried up streams at its foot. In small pools in these ravines he has always found anopheles larvæ without difficulty, and in one district notoriously malarial the larvæ of *Anopheles pictus* were present in great abundance. It will be seen that here, as in Italy, up to the present *Anopheles claviger* is the predominating anopheles.

During four years' residence in a fever-stricken locality, the only Englishman who has avoided fever has invariably slept under curtains. Further, he has always made it a custom, in order to avoid being bitten when sitting outside his house in the evening, to cover his feet with towels, protecting his hands with gloves, and his neck with a muffler. His servant has suffered severely from fever. The only mosquito present in his house is *Anopheles claviger.* They are found in numbers in the rooms of the house and adjoining shed.

The healthiest area is on the coast, where the company has its sanatorium on a sandy shore. Malaria does not occur there. Mosquitoes exist, but are hardly noticeable. The author has found *Culex penicillaris* biting sometimes at night, and has obtained here *Culex spathipalpis* from larvæ. Six miles farther along the coast he visited a fishing colony of a hundred people, all of whom were suffering from fever at the time of his visit, for those who were not actually ill said they awaited their attack next day. Three deaths had occurred among them in a week from pernicious attacks. The only difference between those two coast areas consisted in the latter having behind it a small lagoon, some stagnant pools, and disused surface wells. In all those places the author found anopheles larvæ. The people said they were bitten furiously at night by a large mosquito. Their "patron" alone slept under curtains and had not had fever. Adult specimens sent from their huts were *A. claviger* and one *A. bifurcatus.*

Can it be said, asks the author, that these facts are only coincidences? That might be possible, but looked at in connection with recent researches into the life cycle of the parasite in anopheles, it will be probably considered that they have a direct bearing on the all-important problem of malarial infection.

The Treatment of Intestinal Catarrh.—Dr. G. C. H. Meier (*Boston Medical and Surgical Journal,* September 21st) epitomizes his experience in the following conclusions: 1. That in all diarrhœal affections of recent duration it is of the utmost importance to free the intestinal canal of all irritating material, preferably by the use of small doses of calomel. 2. After this has been accomplished, it is usually necessary to restore the tonicity of the relaxed intestinal mucous membrane and to check the discharges by the use of astringents. In diarrhœal affections of some days' duration, especially in children, it may be advisable to resort to the use of astringents at once in order to prevent exhaustion and collapse from the profuse and frequent evacuations. 3. The best form in which to administer an intestinal astringent is one by which the astringent principle is slowly liberated in the intestinal canal so as to avoid any irritant effect upon the stomach, and also to subject the lower intestinal tract to the influence of the remedy. 4. Tannopine represents an efficient and reliable intestinal astringent, which, owing to its innocuousness, is well tolerated by the smallest children, and which, while an active astringent, is entirely free from irritating effects upon the intestinal canal.

Chamber Disinfection after Death from Phthisis.—Dr. Edward O. Otis (*Boston Medical and Surgical Journal,* September 21st) says that the importance of disinfection or renovation after a case of phthisis is in his experience not generally appreciated. No tenement, apartment, or room should be again occupied or let until satisfactory evidence of thorough disinfection or renovation has been furnished. A case narrated to him by a physician of Boston will illustrate the importance of this. The daughter of the landlady of a well-to-do boarding house died of consumption. Some time afterward a young woman from the West took up her residence in the boarding house and occupied the daughter's room. In the course of time she exhibited evidences of tuberculosis, and her physician, suspecting the source of infection, had her removed. Such experiences were probably familiar to many. According to the author's knowledge the disinfection of premises which have been occupied by consumptive patients and vacated, either by death or removal, before they can be occupied, is compulsory only in New York city, Italy, and Spain.

The Ocular Causes of Headache.—Dr. S. D. Risley (*Journal of the American Medical Association,* September 23d) thus concludes a paper read before the Section on Neurology of the American Medical Association at Columbus: The following conclusions may be regarded as established by clinical experience: 1. Abnormities of the ocular apparatus are in a large group of patients the sole and sufficient cause of headache. 2. These abnormities of vision may be the unsuspected cause, and therefore the absence of symptoms obviously referable to the eyes does not exclude them as an ætiologic factor in headache, insomnia, vertigo, petit chorea in children, and certain stomach derangements. 3. The recent or sudden development of symptoms, after attacks of severe illness, as typhoid fever, the exanthemata, etc., or in association with more or less acute exacerbations of some general dyscrasia, is not sufficient evidence against ocular participation in causing the symptoms. 4. The participation of the eyes as an ætiologic factor in headache can be positively excluded only in the absence of ocular disease or after the most painstaking correction of any existing error of refraction or abnormity of binocular balance. 5. For the relief of reflex symptoms accurate corrections are essential, and these can be secured only by the more or less prolonged use of a strong cycloplegic. 6. Immediate relief by these corrections in a large group of patients is not to be expected, since the pain is frequently due to associated pathological conditions of the fundus oculi, which require time for cure.

Plague.—Dr. W. J. Simpson (*British Medical Journal*, September 16th) says that two features are specially characteristic of plague: 1. The slow, irregular manner in which it acquires a hold over the locality into which it is imported and which may subsequently become the scene of an epidemic. 2. The obscure nature of the earlier cases. The first is apt to cause procrastination in vigorous measures; the second, loss of time through disputed diagnoses. There are two forms which often escape attention, the pneumonic and the ambulant. The pneumonic form lacks the pain, tenderness, and swelling of the glands, which are the most prominent external signs of bubonic plague, and is very likely to be mistaken for bronchitis, broncho-pneumonia, or pneumonia. There are the usual symptoms of febrile infectious diseases, premonitory and otherwise, with cough and watery sputum tinged with blood, which will be found to be almost a pure culture of plague bacillus. These cases rapidly become worse, and commonly end fatally. They are also the most infectious. On the least suspicion, therefore, that plague may be present in a locality, the sputum of all pneumonic cases should be examined by spreading on a cover glass, drying, fixing, and staining with gentian violet, methylene blue, carbol fuchsine, or any ordinary aniline dye. A one-twelfth oil-immersion lens will show, if present, the characteristic cocco-bacilli or diplobacteria, more stained at the ends than in the centre. If they are found, then it is imperative that the sputum be sent for confirmatory cultivation in a laboratory.

The ambulant form is particularly dangerous, being very mild, non-fatal, apparently sporadic, and commonly mistaken for some other disease—*e. g.*, mumps, syphilis, malarial disease, scrofulous glandular affections, etc. These mild cases occur in almost every epidemic, and, owing to their escaping notice at first, disseminate infection before suspicion is aroused. There is some fever, pain, tenderness, and enlargement of glands, weakness, a tongue with creamy white fur in the centre and angry and red at the edges and tip, the eyes are congested, and the speech somewhat thick.

The bubonic plague is, of course, always accompanied by buboes appearing at the commencement of the illness in the groin, armpit, and neck. There are certain symptoms common to all severe forms of plague. The countenance generally portrays in the early stages anxiety and distress, later resignation and apathy; the eyes are red and congested, and the patient has the appearance of being under the influence of a hypnotic, and yet unable to sleep, the eyes remaining wide open. Unless delirious, when the face is flushed and the physiognomy wild, the expression in advanced cases is apathetic or vacant, masking the approaching dissolution. The speech is peculiarly hesitating and broken, being more or less staccato in character, each syllable being pronounced by itself in a thick and husky tone like that of a drunken man, or only half the sentence may be spoken, the rest being forgotten. The tongue is early coated with a creamy white fur, except the tip and edges, which are clean and red; later it is dry, covered with a yellowish or whitish-brown fur, the tip and edges remaining red and irritable.

The characteristic physiognomy, speech, and tongue, with the presence of a bubo, are unmistakable signs of plague. The general symptoms of a typical case are shivering, high fever, nausea, vomiting, intense general or frontal headache, painful and tender bubo, staggering gait, suffused and congested eyes, anxious expression, coated tongue except on tip and edges, restlessness, with uncontrollable desire to wander aimlessly to some distant locality, dyspnœa, increasing disturbance of the nervous and circulatory systems manifesting itself in high and noisy delirium or coma, and in gradual or sudden failure of the heart's action. The pulse, which is quite soft and easily compressible at the onset, becomes intermittent and dicrotic and often difficult to count, and there is a tendency to collapse, the patient's extremities becoming cold and clammy. After the sixth or seventh day the patient's chances of recovery are much increased, and the temperature usually reaches the normal about the tenth day.

The Rôle of Insects, Arachnids, and Myriapods in the Spread of Diseases due to Parasites.—Dr. George H. F. Nuttall (*Journal of Tropical Medicine*, August), in a paper read before the British Medical Association, subdivided his subject as follows: *a. The Rôle of Insects, etc., in the Spread of Bacterial Diseases.*—1. Passive rôle. The domestic fly and allied species are chiefly to blame in this respect. Incapable of "biting," they may from the nature of the food they seek carry pathogenetic bacteria in their bodies or within their alimentary canal and deposit them on lesions of skin or mucous membrane, or on food.

It is possible, nay, probable, and in many cases scientifically proved, that anthrax, plague, cholera, typhoid fever, frambœsia, and Egyptian and "Florida" ophthalmia are so diffused.

2. Active rôle. Blood-sucking flies may play a part in propagating bacterial disease. Clinical writers report that cases of anthrax, septicæmia, pyæmia, and erysipelas arise in certain instances from bites of flies; but experimental evidence is all against this statement. Experiments made by the writer on animals with plague, anthrax, mouse septicæmia, and chicken cholera all gave negative results.

b. The Rôle of Insects, etc., in the Spread of Diseases due to Animal Parasites.—Insects, etc., while serving as *intermediary* hosts, may play: 1st, a passive rôle, when they are devoured by a host of the parasites they contain; 2d, an active rôle when, as in the case of the tick in Texas fever, and various mosquitoes in malarious affections of man and animals, they inoculate into a host by means of their proboscis; 3d, in filarial diseases an intermediary position is played by the mosquito, as it infects itself by sucking the blood of the definitive host.

Insects, etc., *without serving as intermediary* hosts, may play: 1st, a passive rôle, when they transport eggs of animal parasites and deposit them in food—*e. g.*, eggs of *Tænia solium, Trichocephalus, Ascaris lumbricoides;* 2d, an active rôle, by carrying the diseased animal from one animal to another and inoculating the parasite—*e. g.*, Tsetse fly.

Abdominal Suture after Laparotomy.—Dr. A. T. M'Cormack (*American Practitioner and News*, August 1st), in a paper read before the Kentucky State Medical Society, says: "To summarize, I would say that the most efficient method of repair of the abdominal incision would consist of the following distinct steps: 1. A continuous peritoneal suture of fine catgut. 2. An interrupted suture of chromicized catgut for the fascia with four sutures to the inch. 3. A running suture of catgut for the subcutaneous fat. 4. A subcuticular subcutaneous stitch of catgut for the skin."

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-first Annual Congress, held in Chicago, Monday, Tuesday, and Wednesday, May 22, 23, and 24, 1899.

The President, Dr. WILLIAM E. CASSELBERRY, of Chicago, in the Chair.

(*Continued from page 500.*)

Acute Suppurative Processes in the Faucial Tonsil.—This was the title of a paper by Dr. J. L. GOODALE. (See page 509.)

Tonsillar and Peritonsillar Abscess.—Dr. GEORGE A. LELAND read a paper with this title. (See page 512.)

Septic Thrombophlebitis as a Complication of Peritonsillar Abscess, with a Report of Two Cases.—Dr. M. R. WARD presented a paper on this subject. (See page 546.)

A Report of Cases of Peritonsillar Abscess associated with Diphtheria.—This was the title of a paper read by Dr. THOMAS HUBBARD. (See page 549.)

Dr. COBB, of Boston: I will not take up the time of the society in reading the paper which these photographs illustrate, but will give a brief *résumé* of it, and then show the photographs. The object of the paper is to call attention to a space lying just outside the fascia on which the tonsil rests as a possible seat of peritonsillar abscess. This space is called by anatomists the pharyngo-maxillary space, and was first brought into clinical prominence by Zuckerkandl in an essay on the relation of the great vessels to the tonsil. Chiari was, I believe, the first to attribute the location of peritonsillar abscess to this space. My attention was called to the study of the location of the peritonsillar abscess by the immediate closure of the punctures, which often occurred in attempting to relieve the condition. It was noticed that punctures, even when successful in obtaining a free flow of pus, often failed to evacuate the abscess, which only reformed to rupture elsewhere. The existence of a deep location for the pus covered by muscles and fasciæ running at an angle to each other, so as to close any aperture made by transfixing two or more muscles at a time, would explain this. The depth at which the pus must often be sought strengthens this view, as does the infiltration of the pus into the region of the great vessels, as reported by Dr. Hubbard. To ascertain the direction of the infiltration of the pus if contained in the pharyngo-maxillary fossa, hot wax was injected into the fossa through the tonsil on the cadaver, and, after allowing time for the injection to cool and harden, sections were made through the head at about the level of the palate. These sections were then photographed, and they show the wax penetrating the soft palate and the space both above and below the tonsil. This photograph from Testut's *Anatomy* shows the normal appearance of the space, while the others give the appearance of the space when filled with wax. It will be observed that the great vessels are situated in the rear of the space, which is divided into two portions by the styloglossus and stylopharyngeus muscles. It is this partition which usually protects the great vessels from infiltration in peritonsillar cases. Dr. Hubbard's paper has shown us that it is not always a good protection.

Dr. SWAIN, of New Haven: I have had the pleasure of looking over the pictures of Dr. Cobb's and think they are excellent. They impress upon us the points he makes. We see by the photographs that have been passed around what a large space is easily formed by the introduction of wax; consequently, it is easy to assume that this space would readily admit the index finger; and the proposition Dr. Leland makes, of introducing the finger in the manner described by him certainly shows a radical method for breaking up the wall which forms the anterior and inner surfaces of the triangular space, thus aiding in the complete evacuation and cleansing of the abscess. I can readily see that if the operation described by Dr. Leland is done under an anæsthetic, nothing more thorough and successful could be undertaken in the way of opening up these peritonsillar abscesses. I have recently had four or five cases come under my care in which the ordinary methods were not very successful, at least as regards locating the abscess cavity.

Dr. T. A. DE BLOIS, of Boston: I can bear witness to the thoroughness with which Dr. Leland does this operation, but I must say that it takes considerable boldness to go thoroughly through the tonsil in this way. There is always some doubt in the patient's mind as to what has been done. He is uncertain in his mind whether it is the finger or the whole arm that is inside of his mouth. (Laughter.) I remember assisting Dr. Leland in one case where the lady said Dr. Leland "got his finger into my mouth and passed it down until it reached almost to my collar bone." This woman had a recurrent tonsillar abscess, and these abscesses recurred for many years until this most thorough operation. I am glad to bear witness to the fact that peritonsillar abscess never recurs after it has been done. I do not think then that there is any part of the tonsil left.

Dr. JAMES E. NEWCOMB, of New York: Speaking of the clinical side in connection with Dr. Hubbard's paper, it recalls a case which, I presume, many of you have seen reported in the last number of Fraenkel's *Archiv* by Sendziak, of Warsaw, in which an attack of diphtheria was complicated by a succession of tonsillar and peritonsillar abscesses. One of the faucial tonsils had suppurating tissue around it, then the other; next, the nasopharyngeal tonsil underwent the same process, also the lingual tonsil, and finally the antrum of Highmore became completely inflamed. The point of interest to me was the spontaneous opening of the abscess in front of the lingual tonsil, attended by very profuse hæmorrhage. That seems to be a very unusual complication in cases of this kind.

Dr. SWAIN, of New Haven: I wish to refer to the excellent work of Dr. Goodale in connection with the finer pathology of this subject. I am sure we were all very much interested in his paper; yet it is a difficult one to discuss adequately with impromptu remarks, and I wish I might do greater justice to it. I have frequently wished that, as we follow out our cases clinically, we might be able to say what cases were going to be severe and what cases were going to be comparatively mild merely by the surface injection or the amount of membrane on the exterior. But even with all our advances we are frequently compelled to remain uncertain until time permits a definite development. It is pleasant to know that we may operate on acutely inflamed tonsils and not only get as good results as when they are in a quiescent stage, but also that we do not add to the patient's suffering.

Dr. Goodale (in closing the discussion on his part): I have very little to add. I can only hope that other members of the association will carry on this investigation. The removal of the acutely inflamed tonsil during life appears harmless and comparatively painless when done with the sharp guillotine. It is easier than the removal of the uninflamed tonsil, and the process of healing is quite as rapid as if the tonsil were not inflamed. The reason for this would seem to be that we have got rid of the septic material, and the tissues left behind being comparatively healthy heal rapidly. I have had a number of patients who have asked me why I did not remove the other tonsil, because the side on which excision had been done got well first.

Dr. Hubbard (closing the discussion): I think Dr. Ward's paper is very valuable. Septic phlebitis seems to be a better expression than septic venous thrombosis, for the reason that in many cases the process is so virulent that there is no thrombosis. It offers an explanation of the rapid extension of virulent septic throat disease into the thoracic cavity. I have in mind cases where the rapidity of transmission of the process resulting in the formation of metastatic foci in the lungs can be best accounted for by the supposition of septic phlebitis. In this connection the question of incising abscesses through sound tissue assumes importance. The negative tension in veins in this region encourages quick infection at the site of the incision.

(*To be continued.*)

Book Notices.

The Serum Diagnosis of Disease. By Richard C. Cabot, M. D., Physician to Out-patients, Massachusetts General Hospital. New York: William Wood & Co., 1899. Pp. vii–154. [Price, $1.50.]

The author informs us in a prefatory note that the volume is "nothing but a compilation"; and in that it quotes the work in serum diagnosis and the conclusions of all who have recorded them, it certainly is such. As one reads, however, he is able to see how small a value such a compilation would have, were it not presented by one who not only thoroughly understood his subject, but had also that most excellent quality of being able to make others understand it. The value of the book is therefore not to be accounted for by mere compilation, and the work deserves more credit than its author would accord it.

We are introduced in the opening chapter to the phenomenon of agglutination, a term which it is unlikely needs definition. In the second chapter the technique of testing is described, and in the three that follow, the variations in the phenomenon as well as an inquiry into its nature. The five succeeding chapters concern the phenomenon of agglutination or clumping as it occurs in the Widal reaction. These chapters are the pith of the work, and are as detailed and as exhaustive as the subject permits, the eighth chapter containing brief clinical histories which show the value of the test. The book concludes with a chapter dealing with the agglutination obtainable with the micro-organisms of other diseases when subjected to the action each of its appropriate serum. This field is indeed a vast one, but enough has been done in it to show how much diagnostic promise it contains. The book is both enjoyable and instructive.

A Text-book of Diseases of the Nose and Throat. By D. Braden Kyle, M. D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, etc. With One Hundred and Seventy-five Illustrations, Twenty-three of them in Colors. Philadelphia: W. B. Saunders, 1899. Pp. 7 to 646. [Price, $4.]

The aim of the author, as expressed in his preface, has been to present his subject concisely yet clearly. The various diseases considered are classified according to the several pathological alterations caused by them. While the work is by no means an elementary one, it is one to be strongly recommended to beginners in this branch of medical practice, for it is orderly in arrangement, terse in expression, and complete in detail. A brief though valuable chapter entitled Operations on the Larynx is written by Dr. W. W. Keen.

In a work of this kind the path traveled must necessarily be a well-beaten one. Under the head of treatment, the author has been very specific, giving not only the names of remedies, but also their dosage and minute directions for administration. Under such conditions he is perforce dogmatic and makes some statements which universal experience may not perhaps bear out; but throughout his pages there is the unmistakable stamp of sincere and thorough work and an honest record of personal experience.

The typography of the book is beyond criticism. Many of the illustrations are from specimens prepared by the author. Of the one hundred and seventy-five, twenty-three are in color. Special commendation is to be given to the index, which is a model of completeness.

Handy Book of Medical Progress. A Lexicon of the Recent Advances in Medical Science. By Charles Warrenne Allen, M. D., Consulting Dermatologist to the Randall's Island Hospitals, etc., and Jacob Sobel, A. B., M. D., Dermatological Assistant at the Good Samaritan Dispensary, etc. New York: William Wood & Co., 1899. Pp. iv–184.

The design and scope of this useful little volume are well expressed in its preface, from which we quote: "So rapidly do the advances in the various branches of medical science multiply, that one finds it an almost impossible task to keep abreast of the times without the aid of what might be called concentrated literature. In current publications many terms and neologisms are employed long before they find their way into text-books, encyclopædias, and dictionaries. For these reasons the authors have been led to compile an alphabetically arranged volume, giving so far as possible the meaning of new terms and value of the new discoveries in the realms of practical medicine. The book includes the more recent and novel names of diseases, tests, methods, drugs, therapeutic and surgical suggestions, etc. It would have been impossible and unwise in a work of this kind to attempt even an enumeration of all the remedies recently introduced. In other branches as well, omissions have occurred, since to incorporate all the novelties of medicine, even for a single year, would call for a volume whose size would defeat the ends of condensation and portability." For the greater part the selection had been well made, though among the inclusions are a few whose importance is of no great magnitude. The volume is characterized by brevity, but at the same time by clearness, and can scarcely fail to be of service.

Kirkes' Handbook of Physiology. Fifteenth American Edition. Revised by WARREN COLEMAN, M. D., Instructor in Clinical Medicine and Materia Medica in Cornell University Medical College, etc., and CHARLES L. DANA, A. M., M. D., Professor of Nervous and Mental Diseases in the New York Post-graduate Medical School, etc. With Upward of Five Hundred Illustrations, including many in Colors. New York: William Wood & Co., 1899. Pp. xi–840. [Price, $3.]

THE fifteenth American edition of Kirkes' *Handbook of Physiology* is marked by a number of minor changes which progress has demanded. In a few instances the changes have been of some importance, notably as concerns the ductless glands and muscle-nerve action. Apart from these, however, the book has the same features that have made its previous editions so deservedly esteemed.

BOOKS, ETC., RECEIVED.

The Nervous System and its Constituent Neurones. Designed for the Use of Practitioners of Medicine and of Students of Medicine and Psychology. By Lewellys F. Barker, M. B. Tor., Associate Professor of Anatomy in the Johns Hopkins University and Assistant Resident Pathologist to the Johns Hopkins Hospital. With Two Colored Plates and Six Hundred and Seventy-six Illustrations in the Text. New York: D. Appleton and Company, 1899. Pp. xxxii–1122. [Price, $6.]

An Introduction to Dermatology. By Norman Walker, M. D., Assistant Physician for Diseases of the Skin to the Royal Edinburgh Infirmary, etc. With a Fronstipiece, Twenty-nine Plates, and Thirty-four Illustrations in the Text. New York: William Wood & Co., 1899. Pp. xvi–247.

A Compend of Gynæcology. By William H. Wells, M. D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic, etc. With Illustrations. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xii–17 to 279. [Price, 80 cents.]

Archives of the Röntgen Ray (formerly Archives of Skiagraphy). Edited by Thomas Moore, F. R. C. S., Surgeon to the Miller Hospital, and Ernest Payne, M. A. (Cantab.), A. I. E. E. London: The Rebman Publishing Company, Limited. Philadelphia: W. B. Saunders, 1899. Volume IV, No. 1. August, 1899. Pp. 24. [Price, each part, $1.]

Life of General Nathan Bedford Forrest. By John Allan Wyeth, M. D. With Illustrations by T. de Thulstrup, Rogers, Klepper, Redwood, Hitchcock, and Carleton. New York and London: Harper & Brothers, 1899. Pp. xix–652. [Price, $4.]

The Medical Directory of New York, New Jersey, and Connecticut. E. Eliot Harris, M. D., Editor. Volume I.

The Johns Hopkins Hospital Reports. Volume VIII, Nos. 1 and 2. On the Rôle of Insects, Arachnids, and Myriapods as Carriers in the Spread of Bacterial and Parasitic Diseases of Man and Animals. A Critical and Historical Study. By George H. F. Nuttall, M. D., Ph. D.

Studies from the Yale Psychological Laboratory. Edited by Edward W. Scripture, Ph. D. Volume VI. 1898.

Bacteriological and Pathological Laboratory of the Delaware State Board of Health, Newark, Delaware. Bulletin No. 1. September, 1899.

The Continued Fever of Epidemic Influenza. By William W. Johnston, M. D., of Washington, D. C. [Reprinted from the *Transactions of the Association of American Physicians.*]

John Hughes Bennett: His Services to Medicine. By William W. Johnston, M. D. [Reprinted from the *Maryland Medical Journal.*]

The May Curette and Applicator. By A. Frank Bauer, M. D., of Chicago.

Forcible Straightening of Tubercular Kyphosis. By Justin Kay Toles, of Los Angeles, California.

A Case of Large Solitary Tubercles of the Heart. By A. W. Hoisholt, M. D., of Stockton, California. [Reprinted from the *Transactions of the Medical Society of the State of California.*]

Miscellany.

The Medical Laws of Various Countries.—Dr. Julius Schwalbe, the editor of the *Deutsche medicinische Wochenschrift*, has compiled a most useful work, entitled *Bestimmungen über die Zulassung zur ärztlichen Praxis in Auslande*, giving the substance of the laws and regulations governing the practice of medicine in ninety-eight different communities representing practically the whole of America, Europe, Asia, Africa, and Australia. These communities he classifies as follows: 1. No special Laws.—China and Japan. 2. The requirement of a diploma or certificate authorizing the holder to practise in his own community.—Many States in the United States and some States in Africa. 3. The passing of a state examination.—Some States in the United States, Austria, and Turkey. 4. The passing of a state examination, with some concessions as to preliminary examinations.—Argentina, Denmark, France, the Netherlands, Spain, and Sweden. 5. Regular courses in the community's own schools.—Belgium, Greece, Italy, and Portugal. 6. The same, with evidence of preliminary education.—Germany, Russia, and Switzerland. 7. Denial to all foreigners the right to practise.—Luxembourg and Servia.

The Mississippi Valley Medical Association.—At the annual meeting held in Chicago last week officers for the ensuing year were elected as follows: President, Dr. Harold N. Moyer, of Chicago; vice-presidents, Dr. A. H. Cordier, of Kansas City, and Dr. S. P. Collings, of

Hot Springs, Arkansas; secretary, Dr. Henry E. Tuley, of Louisville; treasurer, Dr. Dudley S. Reynolds, of Louisville.

The Question of the Indication of Doses in the Pharmacopœia.—At the recent annual meeting of the American Pharmaceutical Association, held in Put-in Bay, Ohio, Mr. Harry B. Mason, associate editor of the *Bulletin of Pharmacy*, read a paper before the Section in Education and Legislation, in which he said that there were many good reasons why minimum and maximum doses should be incorporated in the next *Pharmacopœia*, and no good reason, he believed, why they should not. That their presence would undoubtedly increase the popularity of the book was reason enough in itself for their introduction. During the six years which had elapsed since the publication of the present revision a feeling had constantly been growing that the book should be so changed in character, or so broadened in scope, that it would spring into more general use among pharmacists and physicians. The *Pharmacopœia* was a book which prescribed standards for the character, quality, strength, and comparative purity of medicaments. It had been created by the professions of pharmacy and medicine, and had the authority and the influence which only entire representation could give. The government had accepted it as the national standard; manufacturing pharmacists made their products conform to its requirements; text-books and reference books in materia medica and pharmacy and pure-food and drug laws were based upon it; and judges were guided by it in making their decisions. It should surely be in the hands of every pharmacist and every physician in the country, but hardly one pharmacist in ten or one physician in a hundred had it in his library.

The introduction of doses, among other changes, would do much to increase the usefulness of the book and would therefore materially increase its popularity. There was little in the present *Pharmacopœia* to interest the average physician. He cared nothing for descriptions, tests, and processes of manufacture. He wanted information along medical lines, and he would not buy or consult a book which failed to give him this information. If he was in doubt about the dose of some toxic remedy, and, knowing that the *Pharmacopœia* was the recognized book of standards, turned to it with trust only to find it silent, he would discard the book as useless to him. It was this very lack of usefulness to the physician, with respect to doses and other things pertinent to his needs, which had prevented the *Pharmacopœia* from being popular with medical men. The notion had gone abroad that the book was a pharmacist's book and that it had no value for the physician, and the consequence was that physicians were deplorably ignorant of its contents.

This ought not to be. The *Pharmacopœia* should not be unknown to the great majority of physicians. Just to the extent that it was unknown and unread its very purpose was defeated. From a selfish point of view there were reasons of the most vital character why pharmacists could not afford to allow such a condition of things. The one great reason why the vast horde of proprietary medicines of every kind had been taken up with such acclaim by physicians was that they were ignorant concerning the *Pharmacopœia* and its authoritative character. A knowledge of the *Pharmacopœia* spread among physicians would do much to restore prescribing to official medicines, and thus restore pharmacy to the pharmacist. Moreover, a greater use of the *Pharmacopœia*, which was the joint work of both pharmacists and physicians, would go far toward bringing the professions together, to the profit and pleasure of both and to the enhancement of medical science.

But the introduction of doses into the *Pharmacopœia* would not only increase the use of the book among physicians; it would also increase its use among pharmacists, which was quite as necessary and desirable. The *Pharmacopœia* was essentially the guide-book of the pharmacist, and, yet, unfortunately, it was too seldom found in his library. His excuse was that it contained nothing but what was in the dispensatory. This was not true, and as an excuse it was certainly not sufficient; but the pharmacist would nevertheless continue to slight the *Pharmacopœia* and to give this excuse unless the book was made more directly useful to him. Doses were of major importance to the pharmacist, and it was their absence from the *Pharmacopœia*, more perhaps than anything else, which had prevented him from using the book to a greater extent. His most important duty, in connection with every prescription which he dispensed, was to see that the physician had not, either by carelessness or by ignorance, prescribed excessive doses, and a book which professed to be his guide, but did not guide him, in this important duty failed to impress him as a book invaluable to him. Perhaps, after all, he was not much to be blamed if he preferred the dispensatory, because he found it to supply what the *Pharmacopœia* lacked, if not so authoritatively or so accurately as the *Pharmacopœia* would. And this preference of the average pharmacist for the dispensatory was a hint which the author thought the revisers of the *Pharmacopœia* of 1900 should consider seriously.

That both pharmacists and physicians had in truth been disappointed in the *Pharmacopœia* because it did not contain doses, and that they would like to have it contain them, had been well proved by their responses to inquiries which had been sent to them within the last year or two. When asked whether doses should be included in the *Pharmacopœia*, 264 out of 311 Missouri physicians had replied in the affirmative, and the committee of the Medical Society of the State of New York, which had for two years been striving to obtain the opinion of medical men anent the *Pharmacopœia*, had received such a preponderance of replies in favor of the introduction of doses that it had recommended this step, among others, in its report to the society. So much for the evidence of physicians. Of sixty-two Ohio pharmacists to whom the same question had been submitted by a committee of the State pharmaceutical association, only one had replied in the negative. There was little doubt, then, that if doses were to be introduced into the *Pharmacopœia* (particularly in connection with other changes made for the same reason, such as the introduction of the more important synthetics) the book would be looked upon with much more favor by pharmacists and physicians generally, and would in time spring into a much larger use.

Not only was the introduction of doses into the *Pharmacopœia* desirable for the reason that it would greatly increase the use of the book, however; it was desirable and necessary for its own sake alone. There should certainly be some authoritative standard in posology. The physician should have some guide which represented the crystallized experience and opinion of his profession, and the pharmacist, whose duty it was to act as a safeguard to the physician, and who was held responsible if he failed to discharge this duty, should have some definite and authoritative ground of judgment. The *Pharmacopœia* set the standard of medicaments in all respects save that of doses; it should, in view of its necessity and importance, set the standard in this respect also. That this should be done had been realized by the pharmacopœial revisers of other countries. The English, the German, and nearly every other pharmacopœia of importance, save that of the United States, contained doses.

Against the introduction of doses into our *Pharmacopœia* three objections had been urged. The first one was that, if the prescriber exceeded the doses designated in the *Pharmacopœia,* he would perhaps render himself amenable to the law for so doing, if, perchance, his patient should die or if some enemy should bring suit against him for malpractice. This objection was more academical than practical; it was based more upon fancy than upon fact or reason. In the first place, a prescriber would so very rarely exceed the maximum pharmacopœial dose that the point was scarcely deserving of any consideration. Indeed, he would hardly ever exceed the maximum dose except in giving an antidote in case of poisoning, or, perchance, in giving morphine to a person addicted to morphine. But, even supposing for argument's sake that he should do so, and that he would immediately be sued by some designing enemy lying in wait, he would have no difficulty, if he were innocent, in proving his innocence to the court. If his act had not been within the bounds of science and reason, he must of course expect to suffer the consequences, and should, indeed, be made to suffer them; but if he had acted competently he could readily show sanction of his act in the book of some prominent therapeutist. The *Pharmacopœia* was a book of standards, true; but there was nothing to prevent the physician from departing from its standards if he so desired. If he preferred to use a tincture of digitalis which was of twice the pharmacopœial strength, he rendered himself liable to no legal punishment. So, also, he might with impunity exceed the pharmacopœial dose of any medicine so long as he did no harm thereby; and if he did do harm, and was punished for it, he was not punished because he violated the standards of the *Pharmacopœia,* but because by incompetence or carelessness he endangered or destroyed life. But to make doubly sure immunity from punishment for exceeding a given pharmacopœial dose, the doses could be so stated as clearly to give the prescriber liberty to exceed them in the very rare cases where it would be necessary. Perhaps a clause to this effect, inserted among the preliminary notices, would serve the purpose.

The second objection which had been made against the introduction of doses was that the *Pharmacopœia* was a book of arbitrary and definite standards: there could be no arbitrary and definite standard in doses, because hardly any two authorities in therapeutics stated the same dose of any given medicament. This, the author believed, was an erroneous conclusion drawn from an exaggerated statement. The disagreement between medical authors in the giving of doses was not a vital one. In the comparatively few cases in which it was found it was most often in connection with nontoxic drugs, which did not much matter, and rarely with toxic drugs, concerning which the question of dose was one of importance. Moreover, this disagreement was usually with respect to average and not maximum doses. The disagreement among medical writers over maximum doses, particularly of those drugs with which the matter was one of importance—the toxic ones—was not enough to prevent the medical members of the revision committee from deciding upon doses which would not only represent the consensus of opinion, but be as near to scientific accuracy as was possible in posology. But, even if it were possible to get only what might be termed approximate doses, these would serve the purpose. For the purpose was to get doses which were representative of general practice and experience, and would enable the pharmacist to know authoritatively when an excessive dose had been prescribed, but which the physician might depart from in those rare cases in which he deemed it necessary, indicating on the prescription, by a star or exclamation point, that an extraordinary dose had purposely been ordered, as he always should when ordering such a dose.

The third objection which had been urged against the introduction of doses into the *Pharmacopœia* was that they were entirely foreign to the original purpose and scope of the work. The purpose of the *Pharmacopœia,* it was argued, was to prescribe standards for the selection, preparation, nomenclature, character, strength, and purity of the medicaments authorized by it; it had nothing whatever to do with the use of these medicaments, any more than the national law which prescribed the standard of the gold dollar had to do with the number of gold dollars which should be paid for a day's work. This comparison was, in truth, misleading; the conditions in the two cases were not at all the same. But it is not the author's purpose to argue whether the introduction of doses would conform to the original purpose of the *Pharmacopœia* or not; this, to his mind, was a point of minor importance. He had due respect for tradition, but he thought that when we failed to recognize that tradition had grown out of the conditions of the past, and that it could not apply without modification to the conditions of the present, if these had materially changed, we were devoid of that power of adaptability which had always and would always determine the survival of the fit; we showed ourselves incapable of meeting new conditions and of realizing that the times changed and we must change with them. If the *Pharmacopœia* were the product of a single author and intended only for whosoever might choose to buy it, as most books were, a narrow scope might be desirable. But the *Pharmacopœia,* on the contrary, was a book of standards created by the professions of pharmacy and medicine, and as such it was intended to be used, and should be used, if its purpose was to succeed fully, by every pharmacist and physician in the country. It had been proved that the traditionally narrow scope of the *Pharmacopœia* had prevented a more general use of the book; that the pharmacist, and more particularly the physician, did not often consult it, because he found it of too little service to him. In the face of this experience should we continue the old policy? Should we refuse, with the eyes open, to extend the scope of the *Pharmacopœia* when we had the best of reasons for knowing that to extend it would materially extend its usefulness and therefore its popularity, and would not be in any way detrimental? Which was better, to have the *Pharmacopœia* conserve the ethics of the revered men who had established its policy decades ago, and have it lie unpurchased and unused by the great majority of pharmacists and physicians, or to relinquish some of those now musty ideals, and make it so conform to the demands and needs of the pharmacist and the physician of to-day that it would spring into a larger and better use? Of what value was the *Pharmacopœia* unless it was used? Of what value was medicine to a patient if he would not take it?

There was no good reason why doses should not be introduced into the *Pharmacopœia* of 1900. There were many good reasons why they should be introduced. Pharmacists wanted them; physicians wanted them. They would tend materially to bring about that general use of the book for which it was designed and upon which its success depended. They would, by virtue of this increase in the use of the book, improve pharmaceutical practice by an inevitable increase in the prescribing of pharmacopœial preparations. Besides this, doses in the *Pharmacopœia* would benefit medical science. They would increase exactness and accuracy in medication. They would give the pharmacist that authoritative guide of which, as a safeguard to the physician, he was in great need, and with which the *Pharmacopœia*, as a book of standards, should supply him. With no good reason why the step should not be taken, and with several good and potent reasons why it should be taken, would the pharmacopœial convention of next May refuse to incorporate doses in the *Pharmacopœia* of 1900? Would it refuse to do what the pharmacopœial revisers of nearly every other country had recognized as necessary, and had done?

The Effects of Habitual Train Journeys on the Business Man's Health.—The *British Medical Journal* for September 23d points out the seriousness of the injury inflicted on the users of the railways by the irregularity of the service. Common experience, it says, affords to every one of us ample familiarity with the ordinary trials of the railway traveler. The rush to the station to catch the train, which may perchance be punctual; the weary wait on draughty platforms or in stuffy waiting rooms; the dilatory journey—all these add seriously to the labor of the day even in the best of times; but when the weather is cold and damp they are still more injurious, in that they are largely responsible for those "colds," as they are called, those conditions of depressed vitality which are the starting points of most of the acute diseases from which men suffer, and from which the elderly and the feeble die. But outside and beyond these well-recognized evils, the unpunctuality of a railway service does a daily injury to those who depend upon it as a means of reaching their place of business by adding to that nervous strain which is the really hard part of a business life. An unpunctual railway, in fact, hits a business man in his most vulnerable spot. It is on the crisp activity of his mental processes that his livelihood depends, and the evil effect of the unpunctual morning train is not merely that it makes him arrive late at his office, but that it causes him to begin his work weary and annoyed. People talk about the "nervous strain" of railway traveling, which many folk, even medical men, attribute to "vibration" and high speed. Perhaps in long journeys in third-class carriages, where there is no rest for the head, vibration may have something to do with it; and as to high speed, if people persist in looking out of the windows, of course they suffer in consequence of the visual disturbances produced. But it is to be noted that experienced travelers always rush to quick trains, and especially to those that stop as seldom as possible. It is the worry of delay and the anxiety as to the time of arrival, which is the great cause of nervous strain, that "tired feeling" with which most suburban-dwelling business men arrive in London. This, repeated day after day, undoubtedly has an evil and wearing effect on the nervous system. But it does harm in other ways, which are less obvious, but none the less effective, and this especially to people beyond middle life. The two great causes of high arterial tension in such people are worry and chill, and the one great remedy—practically the only remedy which can be got away from home—is alcohol. Thus it happens that when the city man arrives from his suburban home, chilled, worried, and late, with the stopcocks on all his blood-vessels so that his brain is starved and he can not think, the craving for a "nip" of alcohol—the only available vasodilator—becomes overwhelming, and this morning drug is too often the beginning of the end. The more we consider this matter, says the *Journal*, the more convinced we are that the city man seeking for a suburban residence should study the punctuality of the train service rather than go by its advertised speed as described in those mendacious documents commonly spoken of as "time tables."

The Heart of Dr. Livingstone.—According to the *Gazette médicale de Paris* for September 2d, the British South Africa Company has offered to the Livingstone Memorial Committee to reserve near Lake Nyassa a piece of ground, one hundred acres in extent, around the spot where the heart of Dr. Livingstone is interred. The Livingstone Memorial Committee has gratefully accepted this gift, and has decided to erect upon the site a granite column forty feet high destined to perpetuate in South Africa the memory of the illustrious medical explorer and missionary.

Death of Professor Stoerk.—The *Lancet* for September 23d announces that Professor Karl Stoerk, the well-known laryngologist, died on Sunday, September 17th, at Hietzing, near Vienna, in his sixty-seventh year. He was a pioneer of much modern laryngology and the author of treatises on the use of the laryngoscope published a quarter of a century ago.

Death of Dr. Jules Simon.—The *British Medical Journal* for September 23d announces the death of Dr. Jules Simon, physician to the Hôpital des enfants malades, Paris, which took place recently from heart disease following influenza. Dr. Simon was recognized as one of the foremost living authorities on diseases of children.

The Uses of Play.—Dr. Burnham (*Sanitarian*, October), in an article on Ventilation and Cleanliness in the Schoolroom, has the following excellent remarks on play:

"The largest psychological benefit of play is that it leads to quick judgment and adaptability. Children who are brought up away from their fellows are dreamy, living in several worlds. Such children are more thoughtful and have broader natures, but lack adapting power. Play, physically, gets one into the habit of doing things for the pleasure of doing them. Play increases the capacity of the individual for action.

"Another, social rather than psychological, point is that play lengthens the period of childhood. To be free to grow until one is twenty or twenty-five, perhaps, lays the foundation for future greatness. Play, in keeping up childhood interest, preserves the vigor and optimism of youth."

THE NEW YORK MEDICAL JOURNAL, OCTOBER 21, 1899.

Original Communications.

VERY EARLY RUPTURE IN AN ECTOPIC GESTATION IN A TUBAL DIVERTICULUM.

By FERNAND HENROTIN, M. D.,
PROFESSOR OF GYNÆCOLOGY IN THE CHICAGO POLYCLINIC,
AND
MAXIMILIAN HERZOG, M. D.,
PROFESSOR OF PATHOLOGY IN THE CHICAGO POLYCLINIC.

As is well known, rupture in tubal pregnancy, occurring during the first month, is comparatively rare. The infrequency of the condition is, of course, proportionate to the time which has elapsed since the implantation of the ovum into the tubal mucous membrane.

Cowles[*] has recently reported a case of rupture of a tubal pregnancy, probably in the fourth week. This has caused Lamb[†] to communicate a report of a postmortem in which rupture was claimed to have occurred in a case of tubal pregnancy at about two weeks. Lamb's description, however, is too meagre to be accepted as conclusive evidence.

Parry[‡] cites a case reported by Cathcart[#] of a rupture in the third week of extra-uterine gestation, and one reported by Rokitansky,[||] in which a rupture is claimed to have taken place as early as the first two weeks of ectopic gestation.

The case about to be reported is undoubtedly one of very early rupture in an ectopic gestation, and is the more interesting as it evidently had its seat in a diverticulum of the main tubal canal. This location of an ectopic gestation has been observed in very few cases; one example of this variety was observed and reported by the authors a short time ago.[Δ] The microscopic examination clearly demonstrates that the early rupture must have been directly due to the fact that gestation occurred at a point in the Falloppian tube which from the first had an extremely thin wall on one side.

CASE.—Mrs. M. A., forty years old, Swedish, housekeeper. Parents alive and well. One sister died of heart disease, otherwise the family history is negative. Patient first menstruated at the age of thirteen; menstruation was regular and normal in all respects. In 1889 she was married, and two years later her first child was born. Pregnancy and labor were normal, but the child was small and poorly nourished, and was sickly until its third year. The patient again became pregnant about four months ago, and thinks she had a miscarriage at about two or three weeks. At this time she passed clots and a great deal of fluid blood. The flowing continued intermittently for about three weeks. From this time on she menstruated every three weeks. The amount of the menstrual discharge was about the same as that of the menstruations prior to the miscarriage above mentioned, but it was less sanguineous.

On August 12, 1898, the patient menstruated as usual; three weeks later, or about September 2d, she had the usual menstrual phenomena, but no flow appeared. On September 24th, while in a large dry-goods store, she was seized with very severe cramps in the lower part of the abdomen, more particularly on the right side. Soon after the onset of this attack she vomited, and, after great difficulty, was able to reach her home. By this time the pain was not quite so severe, but was still present.

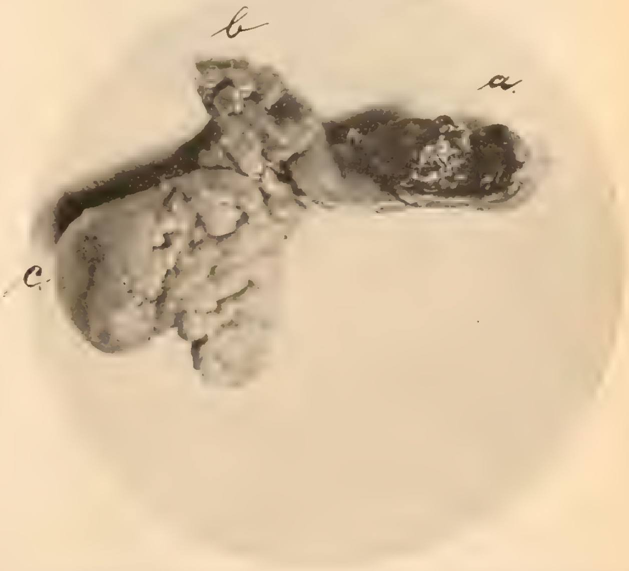

FIG. 1.—Ruptured Falloppian tube (natural size). *a*, site of rupture with blood coagulum; *b*, open fimbriated extremity; *c*, ovary with corpus luteum.

Despite the fact that the pain was less intense, the patient grew rapidly weaker and had repeated attacks of vomiting. She then noticed a swelling or enlargement of the abdomen and her family and friends observed that she was growing rapidly paler, that her extremities were cold and her body bathed in cold perspiration. The patient herself complained of intermittent pains, and said that she felt as if she was going to have a baby. During the train of symptoms just described there had, however, been no vaginal discharge of any kind.

Dr. Henrotin was sent for, and, from the history given, the subjective symptoms, and the physical examination, made a diagnosis of ectopic pregnancy with rupture.

The patient was at once taken to the Polyclinic Hospital, and on September 25th, at 1 A. M.—that is, nine hours after the first manifestation of symptoms of rupture—an abdominal section was made. The operation confirmed the diagnosis of ectopic pregnancy.

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[*] Cowles. An Unusual Case of Tubal Pregnancy. *Journal of the American Medical Association*, 1898, p. 641.

[†] Lamb. Tubal Pregnancy at about Two Weeks. *Journal of the American Medical Association*, 1898, p. 867.

[‡] Parry. *Extra-uterine Pregnancy*, Philadelphia, 1876, p. 151.

[#] Cathcart. *Philadelphia Medical Times*, December 27, 1873.

[||] Rokitansky. *Manual of Pathological Anatomy*, Philadelphia, 1855.

[Δ] Henrotin et Herzog. Anomalies du canal de Müller comme cause de grossesses ectopiques. *Revue de gynécologie et de chirurgie abdominale*, Paris, 1898, p. 633.

The patient recovered without any incident.

Description and Microscopic Examination of the Specimen Removed.—The specimen removed included the greater part of the left Falloppian tube and of the ovary of the same side. The tube as a whole appears to be somewhat, but not materially, thickened. The length of the removed portion is six centimetres; its thickness, nine millimetres; the fimbriated extremity is comparatively small, but its plicæ are well developed. A small pediculated hydatid of Morgagni, 6 × 3 × 2 millimetres, is seen on the anterior surface of the ampulla. The tube wall is ruptured at a point 2.5 centimetres from the outer margin of the fimbriated extremity. The opening is elliptical in general outline, and is two centimetres in its greatest diameter, which is parallel to the long axis of the tube. The margins of the rent are as thin as fine paper and are curled and rolled outward upon themselves. A blood coagulum 8 × 7 × 6 millimetres in extent protrude out of the tear in the tube wall and is firmly adherent to the latter. The fimbriated extremity is open, and on making a vertical median incision into the ampulla and the isthmus external to the rent the tubal canal is found to be very tortuous.

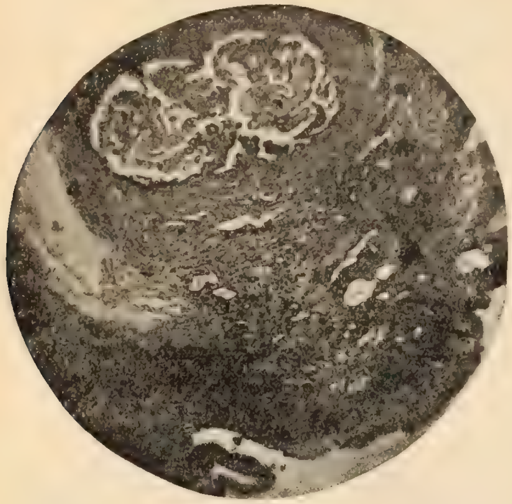

FIG. 2.—Transverse section through the Falloppian tube at the place of rupture. The upper part of the field shows the intact tubal canal with numerous and intact plicæ; the lower part of the field shows decidual tissue and the blood coagulum. Leitz objective No. 1; ocular No. 1.

The portion of the ovary removed measures 3.4 × 2.8 × 1.6 centimetres and shows a large typical fresh and still gaping corpus luteum 1.9 × 1.8 × 1.6 centimetre in measurement. The greater part of the corpus luteum cavity is filled in with yellowish tissue, and the defect is in the form of a shallow depression.

The ovum and embryo were not found at the time of operation, as is so frequently the case in operative procedure for the relief of the conditions following rupture in ectopic gestation.

In estimating the age of an ovum or embryo from the clinical data we must always remember that the product of gestation may have originated either from an ovulation about the time of the last actual menstruation or from the time of the first catamenial period missed. This should always be taken into consideration because, otherwise, we are liable to make serious mistakes.

Judging from the clinical data in our case, the ovum was either two to three weeks or five to six weeks old, providing that ovulation as well as menstruation occurred at intervals of three weeks. When the size of the tube and of the rupture are taken into account we are compelled to infer that the ovum could not have been older than two to three weeks, because an ovum five to six weeks old could not have been accommodated in the tube, as it appeared at the time of removal, nine hours after rupture—that is, before any material changes could have occurred.

As the tube wall at the site of rupture was extremely thin, and could have contained only very minute blood-vessels, which could have given rise to only an insignificant amount of hæmorrhage, the hæmorrhage which caused the urgent symptoms in the case must have come from the tubo-placental sinuses.

Microscopical examination shows that the ovum had made its escape from the tube. The only embryonal structures found are syncytial buds, which are either attached superficially to the tubal decidua or imbedded in the latter. The syncytial buds, however, do not show any degenerate changes. The tubal decidua shows a fairly well differentiated compact and spongy layer. Canalized fibrin is not found excepting in a very thin, insignificant layer in a few places.

The sections examined were taken from places opposite to the site of the blood coagulum and rupture, and also from locations external and internal to this point. The tubal canal was found to be preserved throughout its entire extent. In a zone extending through only a small number of sections one side of the canal still shows simple, flattened, and drawn-out plicæ lined with flattened cuboid epithelium. The connective tissue on this side, while it shows marked changes, does

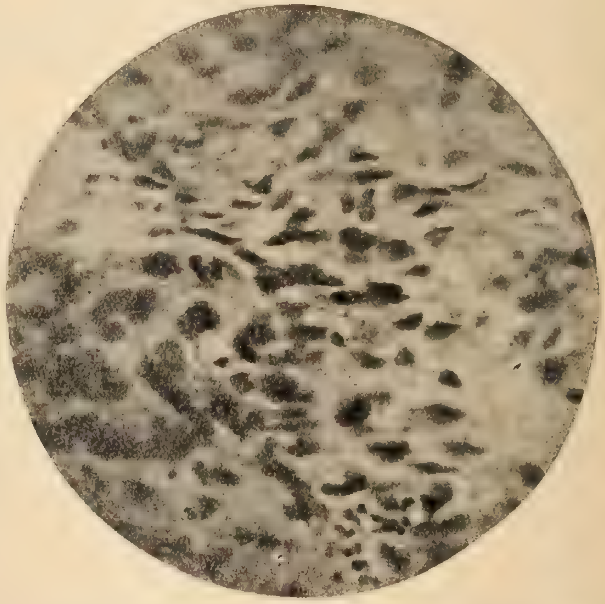

FIG. 3.—Group of decidual cells. Leitz pantachromatic, three millimetres; ocular No. 3.

not present any well-marked typical decidual cells. Toward the other side of the tube the epithelium disappears, and is replaced by a tissue which presents decidual characteristics. In all other places the main tubal canal shows complicated folds lined with columnar epithelium, in some places ciliated. The connective-tissue core of the plicæ, while it shows marked changes—namely, dilated blood-vessels and enlarged cells—does not present the characteristics of a typical decidua, as no decidual cells can be found.

From a careful examination of many sections, it appears that the ovum could not have been located in the main tubal canal, which is preserved throughout its entire extent, but that it must have developed in a diverticulum originating from the main canal. This diverticulum was probably located at the point above referred to, where, within a very small space, the upper and lower circumference of the tube presented such different characteristics. The ovum must have been located in this branch of the main canal and not in the main canal itself, which shows only slight decidual changes, and which was not laid open by the rupture.

A few words could be added with reference to the muscle fibres and blood coagulum. The muscle fibres around the main tubal canal are enlarged and hypertrophied. They are, however, rarefied, and open interstices—diastases—are seen between the different bundles of fibres and even between the individual fibres. Opposite the point of rupture, and between it and the tubal canal, the muscle fibres are especially hypertrophied and the rarefication is particularly prominent.

In the blood coagulum, which is adherent to the tube at the point of rupture, a dense, firm network of fibrin is seen. The red blood-corpuscles are well preserved as regards their shape and color, and hæmatoidin granules and crystals are absent. This demonstrates that the blood coagulum was recent and could only have formed shortly before the operation.

From the history of the case, and after consideration of the macroscopical and microscopical examinations of the specimen obtained by operation, the following conclusions may be drawn:

In this case an ectopic pregnancy occurred, located in a diverticulum of the tubal canal. This diverticulum was short and very probably traversed the fibres of the muscular coat outward in such a manner that it was covered by only a very small amount of tissue. The very thin outer covering of the diverticulum gave way very early in the course of the pregnancy—not later than the third week—under the influence of pressure and pressure atrophy, and a rupture and hæmorrhage from the placental site occurred.

At the time of this occurrence the ovum must have been alive, because there are no signs of previous hæmorrhage or degeneration of the decidua and syncytial buds.

Whether the diverticulum was congenital and due to an embryonic anomaly, or acquired in later life in consequence of a pathological process, is a question which we are unable to answer.

A REPORT OF TWO CASES OF

ACCESSORY THYREOID GLAND AT THE BASE OF THE TONGUE.*

By ARTHUR W. WATSON, M.D.,
PHILADELPHIA.

The occurrence of tumors at the base of the tongue composed of thyreoid tissue is sufficiently rare to make of interest a report of the following two cases:

Case I.—Mrs. Elizabeth D., aged fifty years, came to the Howard Hospital in May, 1898, complaining of great dyspnœa and difficulty in swallowing. She stated that there had been a lump in her throat for eight or ten years, but it had given little trouble until recently, when it had begun to enlarge, producing the symptoms for which she sought relief. The patient's general health was not good. She was weak and somewhat emaciated. Direct inspection of the throat showed a rounded tumor rising behind the arch of the tongue, having a whitish patch on the top (Fig. 1). With the laryngeal mirror it was seen that a large, smooth tumor occupied the base of the tongue from the epiglottis, which it pressed backward, to the circumvallate papillæ. To the finger it felt smooth and firm. It was about an inch and a half long, an inch wide, and an inch thick. It was ulcerated on the top, the ulcer being covered by a white slough or membrane. An attempt was made to remove the growth with the galvano-cautery snare, but, the current not being strong enough, the loop slipped over the tumor, removing only a portion of membrane. A second attempt having no better result, further effort at removal, on account of the patient's conditions, was deferred. A small, rather superficial piece of the tumor was removed and given to the pathologist for examination. The patient was put to bed and carefully watched, and in about ten days the growth had become reduced in size sufficiently to remove the immediate necessity for interference, and as I was ignorant of the nature of the tumor I thought it better to wait. The microscopic examination at the time was not entirely satisfactory, and it was not until after having found the second case, four months later, that a reexamination of the specimen revealed its true nature. The pathological report at the time was as follows:

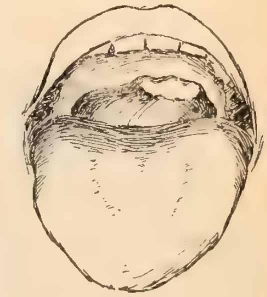
Fig. 1.—Case I. The growth as it appeared by direct examination.

"Microscopically the sections consist in great part of tissue the seat of excessive inflammation and necrosis, without tangible evidence of tuberculosis. In one corner there is a small circumscribed area, of about half the size of a split pea, surrounded by an area of hæmorrhage, consisting of cells arranged in alveoli, supported by a rather delicate stroma of connective tissue. The alveoli are irregular, narrow, and tortuous. The cells are distinctly epithelial and stain well, both nuclei and nucleoli. The cells are usually in but a single layer. There is a distinct membrana propria. Sections were stained for tubercle bacilli in tissue, but none were found."

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* Read before the American Laryngological Association at its twenty-first annual congress.

CASE II.—Anna E., a colored girl, aged sixteen years, came to the Philadelphia Polyclinic in September, 1898. She complained of something growing in the throat that interfered with swallowing. A lump had been present, to her knowledge, for five years, but had only of late given much trouble. Examination showed a smooth, rounded, firm, and elastic tumor on the base of the tongue, in the median line, between the epiglottis and the circumvallate papillæ. It resembled in every respect the first case, except that it was not ulcerated.

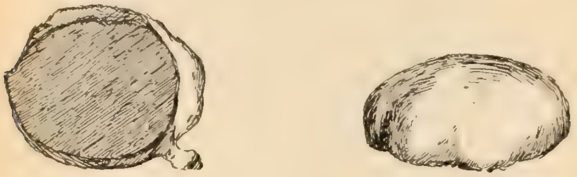
Lower (cut) surface. Upper surface.

FIG. 2.—Case II. The tumor after removal, two thirds actual size.

Under cocaine anæsthesia the growth was surrounded by the electric-cautery snare and removed. Subsequently the wound healed promptly, leaving a smooth and apparently normal tongue. The tumor, after removal, measured an inch and three eighths in length, an inch and an eighth in width, and three quarters of an inch in thickness (Fig. 2). It was submitted for examination to Dr. H. L. Williams, who gave me the following report:

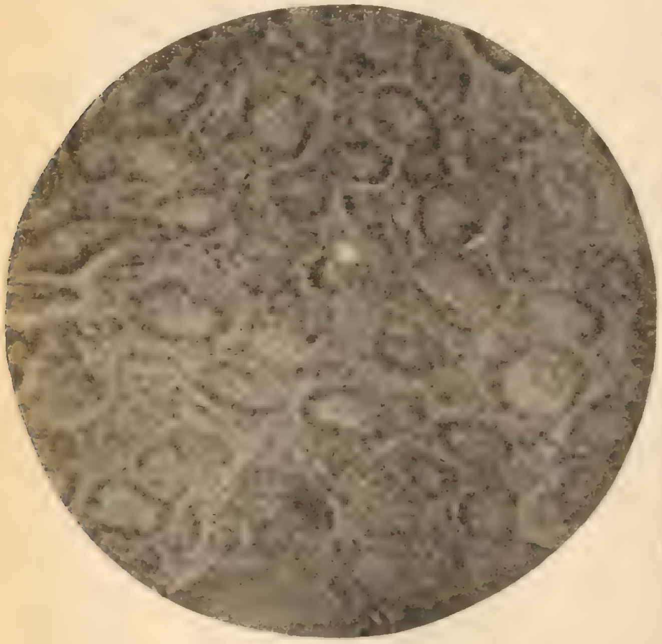
FIG. 3.—Case I. High-power objective. Showing typical thyreoid structure containing some colloid material.

"Macroscopic appearance: The growth is surrounded by a fibrous capsule. It is soft, spongy in appearance, and a delicate reticulum of fine filaments extending all through is clearly apparent to the eye. The surface is reddish, and in some areas whitish, glistening in appearance, and resembles the structure of the thyreoid gland.

"Microscopically, the growth presents a meshwork of acini which are separated by an exceedingly delicate reticulum of connective tissue. The acini are almost universally dilated and cystic and filled with colloid material which contains many vacuoles. In some of the acini the granular *débris* contains leucocytes, and partially disintegrated red blood-corpuscles are also found. Lining the acini is found a single band of epithelial cells whose nuclei take the stain deeply. The outline of the cell substance can not be clearly distinguished. The nuclei appear granular and without caryocinetic figures, the epithelium being decidedly flattened by pressure. In some areas the epithelium is profusely proliferated and scattered throughout the stroma. The stroma for the most part is made up of fibrous tissue with few nuclei, and contains numerous well-formed blood-vessels filled with blood. The diagnosis of cystic thyreoid tissues undergoing colloid degeneration is easily established." (Figs. 3 and 4.)

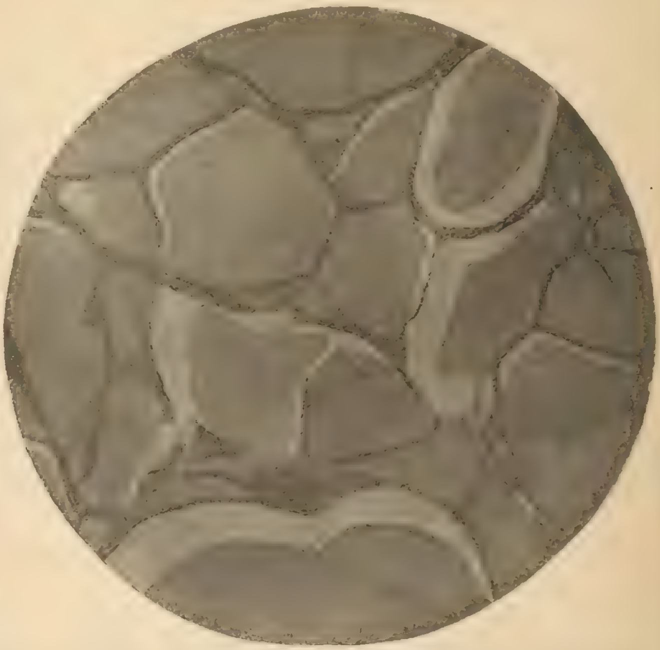
FIG. 4.—Case II. Low-power objective. Showing acini cystic, dilated, and filled with colloid material.

In a careful search through the literature it appears that very few such cases have been reported, and that the condition is probably quite rare. In 1892, at a meeting of the American Surgical Association, Dr. J. Collins Warren, of Boston, reported a similar case in a woman aged fifty-two years. In his article Dr. Warren mentions the report of two similar cases by Mr. Henry T. Butlin in 1890, who also collected six other reported cases. I have been able to find only the two following cases reported since 1892:

C. H. McIlraith (*British Medical Journal,* 1894). This was in a girl aged seventeen years. A tumor at the base of the tongue of the size of a small walnut. It gave no trouble except that speech was rather thick. The larger part was on the right side. Under chloroform, the mucous membrane around the base was cut with scissors, the tumor caught with tenaculum forceps and separated, partly by raspatory, partly by snare. Bleeding profuse but controlled by pressure. Recovery.

J. H. Reintjes, Nymegen, at a meeting of the Laryngological, Rhinological, and Otological Society of the Netherlands, held May 22, 1898, reported a case of like nature. A man, twenty-five years of age, who had had several severe hæmorrhages, was found to have a swelling, dark brown, smooth, elastic, covered with enlarged veins, occupying the base of the tongue, between the circumvallate papillæ and the epiglottis. Electrolysis having been unsuccessful, operation was performed. A Trendelenburg's cannula was introduced into the trachea, the tongue was pulled forward, and the anterior pillar of the fauces was divided. The capsule of the tumor was split horizontally, and the mass shelled out without much bleeding. Recovery was excellent. This is the only case occurring in a male that I have been able to find, all the others being in females.

Strange to say, these tumors are not mentioned in any of the works on diseases of the nose and throat with which we are most familiar, including those of Mackenzie, Cohen, Browne, Bosworth, Ingals, and Sajous. McBride, in his last edition, mentions "thyreoid-gland tumors" among others that may occur in the tongue.

Thyreoid tumors in this position are developed from a persistent upper part of the thyreoglossal duct, which is formed in the development of the thyreoid gland, and opens at the base of the tongue at the position of the foramen cæcum. The thyreoglossal duct is usually obliterated after the eighth week of fœtal life, but may persist, in whole or in part, throughout life.

For the microscopical examinations and reports in both cases, as well as for the photomicrographs of the tumors, I am indebted to Dr. H. L. Williams, pathologist to the Philadelphia Polyclinic.

126 South Eighteenth Street.

THE CAUSE OF DEATH FROM INDUSTRIAL ELECTRIC CURRENTS.*

By R. H. CUNNINGHAM, M. D.,
CLINICAL ASSISTANT IN NEUROLOGY, VANDERBILT CLINIC, COLUMBIA UNIVERSITY, NEW YORK.

Since the pioneer experiments upon the cause of death by electricity were made for the first time by Nollet much has been said and still more has been written, especially within the past twenty years, on the subject of death by electricity. To review and criticise in detail the many extraordinary and peculiar opinions and theories that have been offered by the numerous investigators to explain the awe-inspiring and mysterious phenomenon of death induced by the electric current, although very interesting from an historical standpoint, would probably occupy more space than it is intended that this entire paper should occupy. In fact, though the literature on the subject of death by electricity is extensive, comparatively few of the experimental researches of the many investigators of this subject have been carried out except in a very crude way, and in consequence many undoubtedly erroneous conclusions have been arrived at simply because the experiments were not made in a truly scientific manner. In general, all previous investigators of the subject universally agree that if a strong continuous or alternating current of high tension is passed through the head and trunk, or even through the trunk alone, instantaneous death, or a condition so closely resembling death as to be indistinguishable from it, may be produced. Whether this condition is in all instances that of absolute death, or whether it is a variety of syncope with suspension of the respiratory function, leading ultimately to death if artificial respiration is not practised, seem to be questions on which scientific opinions differ, in spite of the existing accumulation of evidence that clearly disproves the latter explanation of the lethal effects of the electric current.

According to d'Arsonval,* the electric current produces death in one of two ways:

1. By direct action, the tissues being altered mechanically by the disruptive action of the current.
2. By reflex or indirect action affecting the nerve centres.

When the action of the current is as in No. 1, d'Arsonval concludes that the death produced is absolute and final. In the second case experimentation led him to the conclusion that the apparently moribund individual can usually be restored by artificial respiration if it is begun immediately after the accident.

But the result of later researches (Tatum,† Jones,‡ Houston and Kennelly,# Bleile,‖ Oliver and Bolam,^ and others), so far from substantiating the hypothesis of d'Arsonval, clearly lead one to the conclusion that neither the results of experiments on animals with strong electric currents, nor the numerous reports of the pathological findings in the bodies of men killed

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* The experiments described in this paper were performed in the physiological laboratory of Columbia University through the courtesy of Professor J. G. Curtis, to whom the writer is inexpressibly indebted for the many facilities so kindly placed at his disposal.

* D'Arsonval. *Comptes rendus de l'Académie des sciences*, 1885. *Comptes rendus de la Société de biologie*, 1887, No. 8, t. iv, p. 95. *Comptes rendus de l'Académie des sciences*, 1887, p. 978.

† Tatum. *New York Medical Journal*, 1890, p. 207. *Elect. World*, May 10, 1890, p. 314. *Ibid.*, July 19, 1890, p. 36.

‡ Jones, H. L. *British Medical Journal*, 1895, vol. i, p. 468.

Houston and Kennelly. *Medical and Surgical Reporter of New Jersey*, 1895, vol. lxxiii, p. 315.

‖ Bleile, A. M. *Transactions of the American Inst. of Elect. Eng.*, 1895, vol. xii, p. 390.

^ Oliver and Bolam. *British Medical Journal*, 1898, vol. i, p. 132.

accidentally by the electric currents of commerce or legally electrocuted by the high-tension current such as the State of New York employs, are in the least corroborative of that hypothesis. In fact, all of the more carefully conducted experiments (Tatum, Jones, Bleile, Oliver and Bolam) clearly indicate that in the higher animals the chief lethal effect of both the continuous and the alternating current is due to their action upon the heart, a result that is most clearly corroborated by my own experiments. Furthermore, it has been observed (Tatum, Jones, Houston,* and others) that in order to produce a fatal issue very much stronger currents are necessary when the electrodes are applied to both sides of the head, or one electrode on the head and the other just caudad the occiput. Thus Houston passed as much as six ampères directly through the head of a dog without producing death. Such observations are also fully substantiated by my results, and as all of my experiments without exception lead to the conclusion that if rapid death occurs from a very brief contact with a wire or wires conveying one of the commercial high-tension electric currents, the lethal effect is due entirely to the action of the current upon the heart. What the action is, however, none of the various writers tell us definitely, except that the cardiac effect occurs just as readily after the exclusion of the action of the vagus nerve by the administration of atropine or curare (Tatum). Whether the heart muscle is merely paralyzed by the current, whether it is killed from molecular changes produced by the current, or whether it merely comes to a standstill from its inability to overcome the enormous resistance, rarely present in my experience except under special conditions, that is stated by Bleile to result from the sudden contraction of the peripheral arterioles, are all opinions that seem to be merely theoretical. Therefore the object of this paper is not to investigate the well-proved fact that strong electric currents can produce death, but to reemphasize the effect produced by the current upon the heart, to elucidate the nature of that action, and finally, to devise, if possible, a more reliable method of resuscitation than that of artificial respiration, the only, and almost invariably futile, method in vogue in electrical accidents at the present day.

About five years ago the writer performed a number of experiments on dogs for the purpose of determining whether a contact of 0.5 second with the continuous 1,000-volt arc-light current, the 500-volt trolley-car current, or the continuous 220-volt power current was capable of producing rapid death in medium-sized dogs. Although the experiments were rather crude, owing to the lack of the proper physiological and electrical registration apparatus, it was shown very satisfactorily that even the comparatively low-tension power current possessed sufficient electromotive force to send a lethal strength of current through an etherized dog when the resistance at the points of application of the electrodes was minimized by thoroughly moistening the skin and hair, or by shaving off the hair at those points and wetting the skin with a strong warm salt solution.

As only the continuous 115-volt illuminating current and a current of 124 volts from a large battery of accumulators were convenient for the present research, only these currents were employed in the experiments described below. As quite a number of fatal accidents from contact with the 110- to 120-volt current have been reported in recent years (Hansen,* Dr. V. F.,† and Hankel ‡), it was very probable that the currents at my disposal were of sufficient voltage to produce the desired effect in a dog, especially if care were taken to have good electrical contact at the points of application of the électrodes. That such was the case is clearly shown by the following experiment:

Experiment I.—A medium-sized dog was etherized and a cannula inserted into the right carotid artery and connected to a Ludwig manometer that recorded upon the paper of a Hürthle kymograph. In the trachea a tracheal cannula was inserted, through which the anæsthetic was administered when necessary. After carefully shaving the chest over the heart or over the abdomen the negative electrode, moistened with a strong hot salt solution, was firmly applied to that region by strips of rubber plaster. The cup-shaped positive electrode was then applied to the head over the cerebrum after the superficial layers of the scalp had been previously dissected from the underlying skull and temporal fascia. To minimize the resistance at the points of contact, both electrodes were covered with thin chamois skin, well soaked in hot salt solution. To record the respiratory movements, a stethograph was attached to the chest by rubber plaster or tapes, and connected to a recording Marey tambour. A chronograph—the upper in the tracings—being in shunt with the circuit that passed through the dog served to inscribe the base line as well as to mark the closing and the opening of the circuit. A second chronograph, the lower, indicated the time in two-second intervals.

To measure the strength and voltage of the current a Weston deadbeat ammeter and a Whitney deadbeat voltmeter were used.

After a normal tracing was taken the current was suddenly closed and kept closed for seventy-six seconds, during which time 0.4 ampère at a pressure of a hundred and sixteen volts passed through the dog and produced the following effect (Fig. 1).

Almost simultaneously with the closing of the circuit the blood pressure rapidly fell to zero, a few heart beats (auricular) being perceptible in this tracing. At the closure of the circuit a deep inspiration was produced, then a deep expiration followed by cessation of respiratory movement in a state of expiration during the passage of the current. On breaking the circuit a deep inspiration followed by an expiration resulted, and after a few moments a few shallow respirations took place. Attempts at restoration by artificial respiration were then begun and continued for twenty minutes, but were entirely ineffectual.

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* Houston. *Journal of the American Medical Association*, 1895.

* Hansen, Oschersleben. *Magdeburger Zeitung*, October 24, 1897 (ref. by Hankel).

† Dr. V. F. in O. *Aerztliche Central-Anzeiger*, 1897, S. 415.

‡ Hankel. Volkmann's *Samml. klin. Vorträge*, No. 208, 1898.

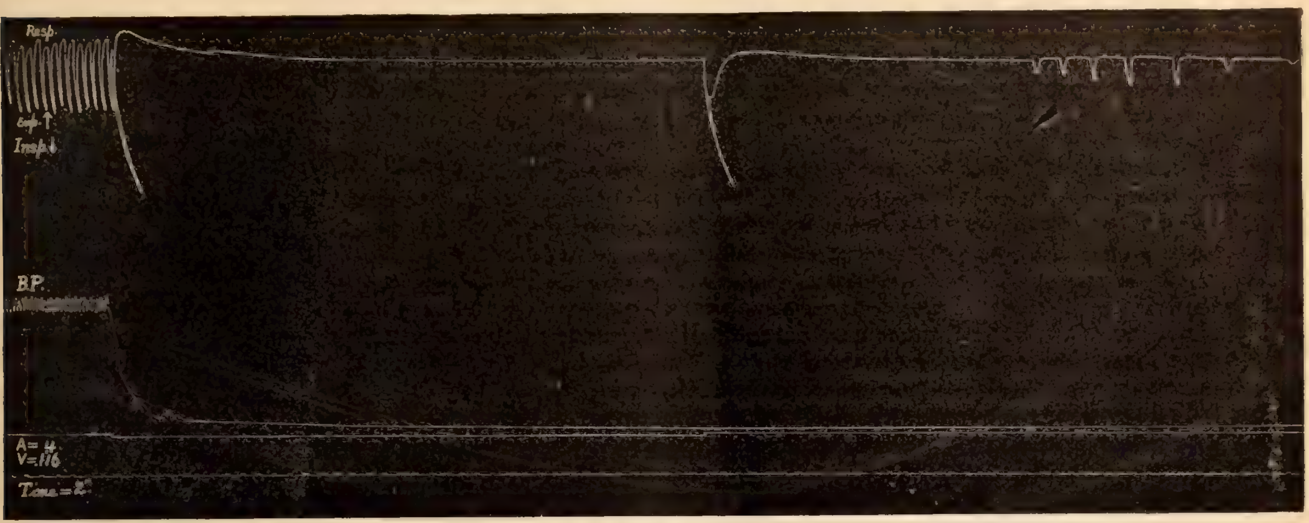

Fig. 1.

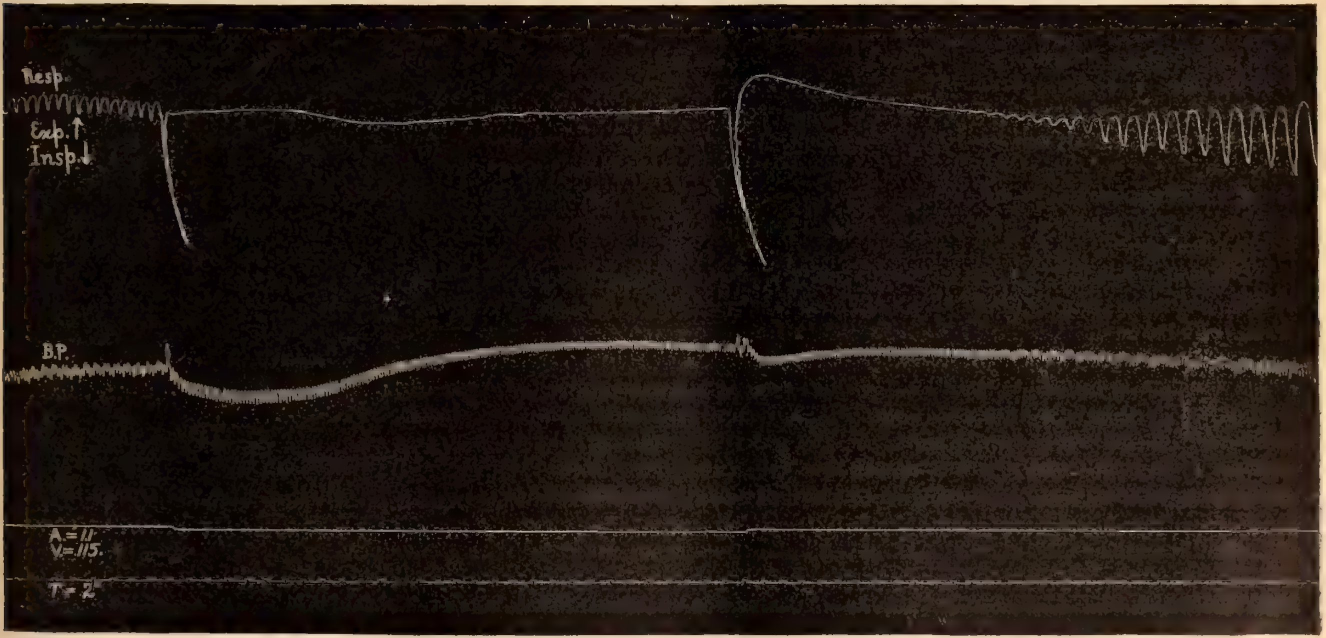

Fig. 2.

Thus the conclusion is evident that the continuous, finely pulsatory, 116-volt current can readily kill a dog when it is passed for a minute and sixteen seconds from the head to the thorax, when good electrical contacts are made in those regions. The experiment also demonstrates that though respiratory standstill occurs during the passage of the current, the respiratory centre in the medulla is not paralyzed nor instantly killed by the current, else no natural rhythmical respiratory movements could occur after the circuit is broken. Further, it is evident from the tracing that an almost instantaneous and total extinction of the arterial circulation is produced. That this extinction of the blood pressure results from a practically instantaneous cessation of the coordinated rhythmical contractions of the ventricles of the heart is readily demonstrated, for all that is necessary is to observe the behavior of the heart, after previously opening the chest, at the instant a current of 0.9 ampère, or even less, is passed through a dog. Immediately both ventricles stop beating, while the auricles, especially the auricular appendices, beat with extreme rapidity. On stopping the current the auricular appendages generally resume their usual coordinated, rhythmical rate of contraction, which may continue for a considerable number of minutes. Frequently the auricles also begin to beat again coordinately for a few seconds, but the ventricles very rarely ever exhibit the slightest sign of a coordinated contraction. So rare, in fact, is the spontaneous recurrence in the dog of even a few feeble coordinated beats of the ventricles after such powerful shocks that I have noted it in but one experiment, and then only after a tube had been passed into the ventricle *via* the right jugular vein in order to withdraw venous blood from the greatly distended heart. Very evidently, therefore, the current affects chiefly the ventricular portion of the heart muscle.

Passage of the Current Directly through the Chest.—When the current is conducted directly through the thorax by attaching the electrodes to the forearms, or if one electrode is attached to the left forearm and the other is placed on the chest immediately over the heart, the resultant tracing differs in one respect from that obtained in the preceding experiment. This difference, as is very evident from the accompanying tracings (Figs. 2 and 3), consists of the greatly exaggerated respiration that occurs during the passage of a current that is of an ample lethal strength. This effect is well shown in the following experiment:

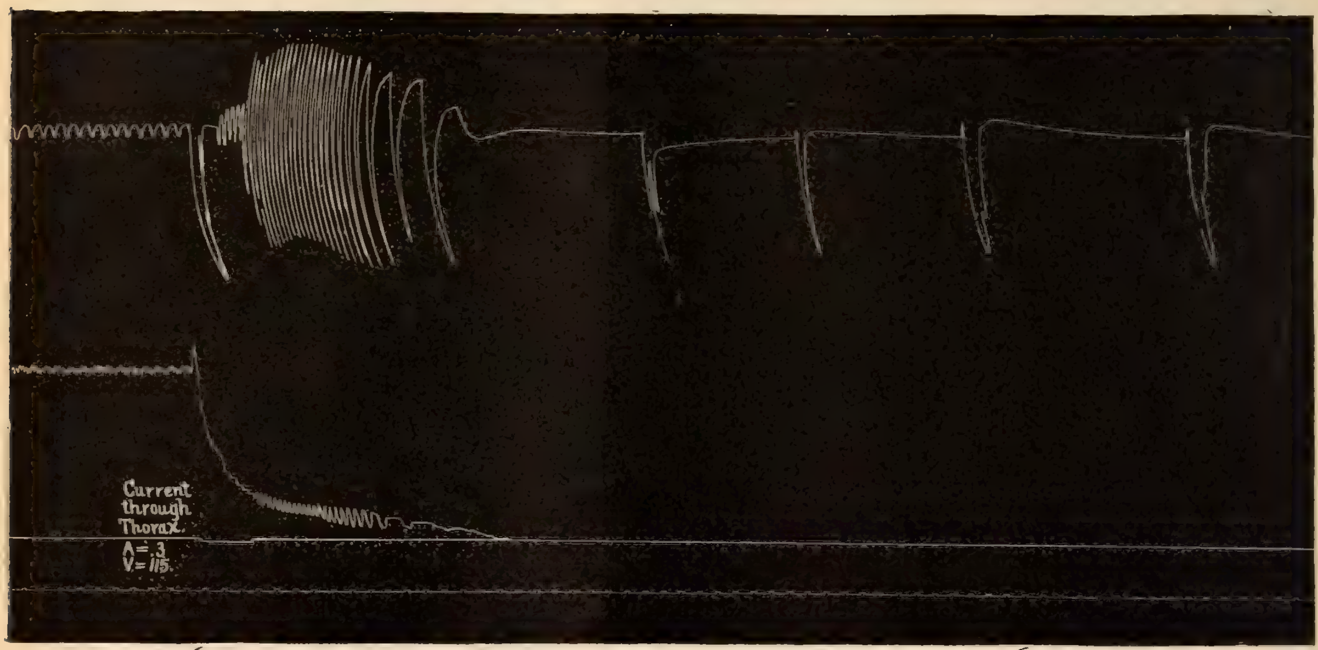

FIG. 3.

EXPERIMENT II. — Mongrel dog, weighing 8,654 grammes. Procedure as in Experiment I. Current = 1.5 ampères; volts = 115. Duration of shock, three seconds. Electrodes on forearms. Effect: Immediate tetanic contraction of muscles of fore limbs and hind limbs, which lasted during the passage of the current; momentary contraction of the muscles of the trunk. Rapid and exaggerated respiration, which, after thirteen seconds, became gradually slower and feeble, and finally ceased at the end of two minutes. Almost immediately after closing the current the blood pressure rapidly fell and the heart soon ceased apparently to beat.

In other experiments with currents of less or of greater strength applied through the forearms, or through a forearm and the front of the chest, while the same general effects were produced, the fall of blood pressure and cessation of the heart beat occurred practically simultaneously with the closing of the circuit.

To get a more definite idea of the average minimum strength of the continuous current that is required to produce a fatal effect in the average dog, when it is passed immediately through the chest, numerous experiments fashioned after the plan of Experiment II were made. In these experiments continuous currents of various strengths were passed for different periods of time through the chests of dogs of different weights and ages. Briefly summed up, the results of this series indicate, first, that young, well-nourished, and hardy dogs can usually withstand a slightly greater strength of current through the chest for a longer time than ill-nourished or older dogs. Secondly, that the minimum strength of current required to stop the hearts of different dogs bears no definite ratio to their size and weight, for I have seen frequently the heart of a very large dog, such as a Newfoundland, instantly stopped by a current of but 0.3 ampère, while the hearts of very small shaggy terriers, although usually considerably affected, not only readily withstood repeated shocks of a current of 0.45 ampère, lasting from ten to eighty seconds, but quickly recovered from the shock of a current of 0.7 ampère that was applied for two seconds and a half. Thirdly, that the duration of the shock must occupy a certain amount of time to cause the heart to stop its coordinate beats. But what the exact relationship is I have been unable to determine, because the hearts of different dogs differ greatly as regards their susceptibility to continuous currents of different strengths conducted through the chest for different lengths of time. Thus in some dogs a current of 0.25 ampère for one second causes the heart to stop permanently its coordinate beats. In other dogs, which were as nearly like the former as possible, it was found that even 0.45 ampère applied through the chest for over a minute failed to stop the heart. In other dogs repeated shocks of 0.6 ampère for periods of from two to fifty seconds failed to stop the heart permanently. Currents of from 0.65 to 0.75 ampère were then sent through the chests of these dogs for two seconds, but in each instance complete recovery of the blood pressure, which is always very prompt when it is going to occur, quickly followed. Finally, after ten minutes had passed, the former current of 0.6 ampère, that had been borne previously without harm, was applied for two seconds, and almost coincidently with the closure of the circuit the heart of each animal ceased permanently to beat. Further, certain dogs may be given at intervals of about one minute in the early stages of the experiment a number of succeeding shocks, each a little stronger than the other, until a current strength of from 0.45 to 0.6 ampère is reached, which amounts many dogs will bear without the occurrence of a stoppage of the heart. Then, if some severe operation that usually produces more or less profound general depression even in a deeply anæsthetized animal be performed—for instance, if the cervical spinal cord be exposed and divided—frequently the very brief passage of a current of 0.25 ampère through the chest will cause the heart to stop immediately, although previous to the occurrence of the depression a current possibly as great as 0.65 ampère had been withstood readily. In other words, it seems that the heart of an anæsthetized dog, and probably also that of an unanæsthetized dog, is more susceptible to weak electric currents when the general condition of the animal is depressed. From the preceding results it is quite evident that to come to any definite conclusion regarding the exact strength of current of a certain voltage that is necessary to electrocute a dog is out of the question. In none of my experiments was a current strength of less than 0.2 ampère fatal, in spite of the fact that the current was passed directly across the chest so as to include the heart in the circuit. The maximum strength of current that failed to stop the heart and kill the animal was 0.75 ampère. However, the failure of a current of this great strength to kill was met with in but one dog, and that a rather small one, its weight being 5,005 grammes. Usually a current of from 0.6 to 0.65 ampère was sufficiently strong when passed across the chest to kill the majority of the dogs whether large or small. As large dogs often succumbed just as readily to currents of only 0.25 ampère, always in the same manner—namely, by an immediate and permanent cessation of the coordinated contraction of the heart—there seems to be ample ground for concluding that, besides the influence exerted by the quality, duration, strength, and density (Tatum) of the current through the thorax, some other factor, apparently residing in the heart and probably physiological in nature, also exercises a considerable influence in the greater or less readiness with which the cardiac effect is produced. But the further discussion in greater detail of this physiological factor will be deferred until the effects produced by sending a very strong current directly through the cerebrum and medulla oblongata have been described and contrasted with those obtained in the above-mentioned experiments.

Effects produced by the Passage of a Strong Continuous Current directly through the Cranio-cervical Portion of the Central Nervous System.—So far as I have been able to discover, in none of the various experimental investigations upon the cause of death from high-tension electric currents has any observer exposed the cerebral cortex and upper portion of the spinal cord and applied the electrodes conveying the death-dealing current directly to those regions of the nervous system. A number of writers (Brown and Peterson, Tatum, Houston and Kennelly, Jones, and others) * have applied the electrode to the head and lower part of the back, or to the head and middorsal region of the back, or to the head and the back of the neck, and have produced death with greater or less ease with strong currents. Tatum concluded that much stronger alternating or continuous currents were necessary to produce death when they were passed from the head to the lower cervical region of the back, or *vice versa*, than when such currents were sent from the head through the thorax to the leg, or even through the thorax. Houston passed six ampères for a few moments directly through the head of a dog without killing it. Jones noticed that while 0.5 ampère of the continuous current could be passed through the head or upper part of the neck of an anæsthetized cat without affecting it much, an equally intense current through the thorax always proved fatal.

In the above-mentioned experiments in which the electrodes were applied to the skin the intensity of the current actually traversing the deeply lying nerve structures is naturally a matter for speculation, for though the ammeter indicates the total ampèrage of the current passing through the portion of the body between the electrodes, probably but a small part of this total ampèrage really traverses the deeply lying cord and brain. To minimize, the discrepancy arising from the above-mentioned cause, and to prevent as much as possible the escape of current to other conducting tissues and to the heart, a number of experiments similar to the following were made.

EXPERIMENT III.—Etherized dog. After the skin and temporal muscles had been dissected from the underlying bone, the cranial cavity was opened by a trephine applied to both sides. These openings were further enlarged by bone cutters until a large area of the cerebral hemispheres was uncovered. Along the course of the longitudinal sinus a narrow protecting strip of bone was left. A hot, flat sponge was then placed upon the brain and the skin flaps temporarily replaced in their proper position. Next an incision was made through the skin of the upper part of the neck; the various muscles were then dissected from the upper cervical vertebræ, and finally the spinous processes and laminæ of the five upper cervical vertebræ were removed so as to expose the spinal cord freely. After opening the spinal dura the horizontal narrow arm of an L-shaped electrode, entirely covered with rubber except on the lower surface of its horizontal arm, which was faced with chamois skin, was placed on the posterior surface of the cord and held in position by spring clips applied at the edges of the incision in the skin. The cerebral convolutions were then exposed by reflecting back the dura, and a cup-shaped brass electrode, covered on its convexity with rubber and lined with well-moistened chamois skin on its concave surface, was applied to the surface of the brain. Broad electrodes of thin sheet copper were applied also to both forearms. By means of a double pole, double throw switch, and an adjustable rheostat, currents of different intensities could be directed either through the thorax or through the brain and upper cord.

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* *Loc. cit.*

Tracing No. 2 illustrates very clearly how the blood pressure and the respiration are frequently affected by the passage of such a current as 1.1 ampère for one minute directly through the cerebrum, medulla, and upper cord, while in tracing No. 3 the effect of passing a current of only 0.3 ampère for six seconds through the thorax of the same dog is shown for comparison. In this instance the current through the brain gave rise to the usual deep inspiration, followed by expiratory standstill while the current was flowing. If the current is not applied for too great a length of time, in a few moments after it is shut off the respiratory movements generally recommence, often feebly at first, and soon return to their former normal rhythm and strength if the electrode on the head is prevented from unduly pressing upon the brain. In fact, in a number of instances, even with currents as strong as 1.6 ampère, I have noticed that the respiratory inhibition seems to cease or to be overcome after the current has been acting for a number of seconds, so that pronounced respiratory movements begin even though the current is still flowing through the brain and upper cord. Generally with currents of from 1.5 to two ampères complete inhibition of respiration obtains during the entire time the current is passing. Markedly different is the behavior of the blood pressure in such experiments from that observed in experiments I and II. After a slight rise, coincident with the general tetanic spasm of the muscles which the closure of the circuit suddenly produces, the pressure falls slightly, and then slowly rises to a considerable height, frequently to twice or even nearly thrice its original height, if the circuit is kept closed for about fifty seconds. If the current is broken at this stage the pressure may or may not continue to rise for a few moments, after which it quickly returns to the normal; but if the flow of current is allowed to continue for four or five minutes the heightened blood pressure slowly diminishes, the cardiac action becomes progressively more labored and slower, and, finally, the complete cessation of the heart beat announces the fact that the death of the animal has occurred. Quite otherwise, however, is the behavior of the blood pressure when artificial respiration is performed during the entire time that the current is flowing. Under such circumstances, although the slight initial rise and the slight subsequent temporary fall of blood pressure accompanied by more or less cardiac inhibition occur, the enormous rise in the pressure does not take place. Thus, on discontinuing the current at the end of a minute the inhibited heart action gradually disappears and respiratory movements, at first slow, soon become natural. Therefore, asphyxia resulting from the inhibition of the respiratory movements appears to be mainly responsible for the increased blood pressure.

In certain dogs, especially when rather stronger currents are employed, a series of severe general convulsions may commence a few moments after the current is closed, and, should such occur, the return of the natural respiratory movements upon discontinuing the current after an application of from thirty to sixty seconds is frequently quite tardy. In fact, occasionally the fatigue of the muscles and of the spinal and medullary nerve cells concerned with the respiratory function is so great that a dangerous, or even a fatal degree of asphyxia may arise before effectual respiratory efforts are made by the animal. Consequently, artificial respiration applied for a few minutes, or until the fatigue has passed off, invariably restores such animals completely.

Therefore, it is quite clear from this description that a dog may be killed by passing a strong continuous current for a more or less lengthy period through the brain and upper part of the cervical spinal cord. But the mode of death is quite different from that which results from passing the current through the body in such a fashion that the thorax, or rather the heart, is traversed by some of the lines of the current. In the former case, when death results from the more or less prolonged passage of a strong current directly through the exposed brain and upper spinal cord, the lethal effect is plainly the result of asphyxia, while in the second case, where the streams of even a moderate current traverse the heart for but a brief period, the lethal result is clearly due to the sudden and permanent stoppage of the heart's coordinated action, the central nervous system dying from anæmia. Such being the case, it is evident that to produce experimentally in the briefest possible time the death of an animal by means of the ordinary commercial continuous or alternating electric currents, the electrodes should be so placed that the greater portion of the current passes through the heart. Thus one electrode should be placed on the front of the chest directly over the heart and the other either on the back in the same relative position, or on one or other forearm, preferably the left. Applied thus, the brief application (a quarter of a second) of a current of one ampère appears to be invariably fatal to dogs. When, however, it is desirable to mask or to suppress the respiratory movements, as would naturally be the case at an official electrocution of a condemned criminal, not only the heart, but also the brain, medulla, and upper part of the spinal cord should be traversed by a strong current applied for a sufficient length of time for the activity of the respiratory centre to wholly disappear. But from what has been related above in regard to the effects produced by the passage of a strong current through the heart for a few seconds, it follows that such a procedure does not shorten materially the brief period of life that still remains in the nerve centres after the complete extinction of the circulation. In fact, the continued application of very strong currents, eight to ten ampères at a pressure of from twelve hundred to seventeen hundred volts, after the heart has stopped, merely increases the chances of the production of electrolytic effects and burns at the sites of the electrodes, an effect which, to say the least, is extremely undesirable at a *humane* electrical execution.

(*To be concluded*)

SURGICAL DISEASES OF THE KIDNEYS:*

CASES ILLUSTRATING SOME POINTS IN DIAGNOSIS AND TREATMENT.

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Renal surgery is of such recent origin that many physicians have not realized its possibilities, owing, perhaps, to the spirit of conservatism, which renders progress slower but safer. Ten or fifteen years ago it was considered dangerous and daring to cut into the substance of a kidney or to remove it, but these operations are now done every day with satisfactory results and with but little danger.

As in most other branches of surgery, extremely radical measures were at first employed, which were followed by more conservative ones. Not long since it was the rule to at once remove diseased kidneys, irrespective of what the affection might be; even movable kidneys were often treated in this manner. At the present time nephrectomy is resorted to in extreme cases only, and then more often as a secondary than as a primary operation.

The tendency of modern surgery is toward early operations, renal surgery being no exception to the rule. Unfortunately, there are still many physicians who, through timidity or lack of information, permit their patients to suffer indefinitely, hoping that something may occur to relieve them, when a comparatively simple and harmless operation would remove the trouble at once and prevent irreparable damage to highly necessary organs. In most early operations, where extensive destructive changes have not taken place, the danger in competent hands is next to nothing. Henry Morris, for instance, reports a hundred and thirty-two such operations with but two deaths.

The following cases have been selected with the idea of calling attention to certain interesting features:

Case I.—A woman, twenty-three years of age, well nourished, and not neurotic, had suffered for years with pain and tenderness in the region of the left kidney, the pain following the ureter to the bladder and often running down the thigh. Recently she had been almost completely disabled. The symptoms were increased by motion, and particularly by jolting.

Physical examination revealed nothing abnormal, which seemed to exclude movable kidney, tumor, hydronephrosis, etc.

Examination of the urine showed absence of albumin, sugar, and pus, with presence of innumerable crystals of calcium oxalate, together with a few hyaline casts and red blood-corpuscles. As the patient was menstruating, it was thought that this might account for the blood, but catheterization failed to eliminate it. It was then imagined that the passage of the catheter might have liberated the few red cells which were present; hence, when the menses had ceased, the parts were cleaned and the urine again collected and examined. The result was the same.

The character of the urinary secretion, together with the absence of fever and the good general condition, appeared to exclude suppurative affections, tuberculosis, malignant tumors, and acute and chronic nephritis.

There were no evidences of disease of the spine or of adjacent organs.

There remained for consideration calculus without infection, "idiopathic" nephralgia, and nephralgia due to irritating substances in the urine.

In favor of calculus was the increase of pain, tenderness, and blood in the urine on motion, jolting of the body, or percussion of the lumbar region, with decrease of these symptoms during rest in bed. The presence of hyaline casts is considered a valuable confirmatory sign by Muser.

Against the presence of stone was the limited number of blood discs and casts, and the fact that the patient had never passed any gravel.

As the blood might have been due to the presence of calcium-oxalate crystals, nitrohydrochloric acid was administered until they disappeared; but the pain on exercise, the tenderness, and blood remained.

The diagnosis seemed, accordingly, to lie between so-called idiopathic nephralgia and nephrolithiasis. The patient was informed that, although a positive diagnosis could not be made, an exploratory incision was indicated, owing to the severity and long standing of the symptoms, and their stubborn resistance to medication. At the operation, in which the kidney was freely incised along its convex border and reunited by catgut sutures, nothing was found except an undue movability of the organ. Nephrorrhaphy was done, and union by first intention, without drainage, was obtained. Complete recovery from symptoms ensued after the lapse of some weeks.

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* Read before the Colorado State Medical Society, June, 1899

This case illustrates the difficulties in diagnosis sometimes encountered in affections of the renal organs, and emphasizes the fact that time, patience, and minute investigation are often required, and even then failure may result. Attention is also called to the observation that blood in the urine may be due to movable kidney as well as to such conditions as nephrolithiasis, tumor, tuberculosis, irritating crystals, etc.

In this connection I desire to mention a feature of movable kidney occurring in this case which I have not seen stated elsewhere—the absence of symptoms during pregnancy, due, perhaps, to the support furnished by an enlarged uterus.

Case II.—A strong, healthy man of about forty years, with symptoms similar to those of the previous case. The urine was acid, contained a few red blood-corpuscles, some hyaline casts, and an abundance of urates, and was of high specific gravity. A movable kidney was suspected, although, the abdominal walls being thick, nothing could be discovered on palpation; but treatment directed to the diminution of acidity and specific gravity of the urine cleared up the symptoms in a few days.

This case serves to remind us that in nephralgic conditions internal treatment should be tried before operation is resorted to; but it should not be lost sight of that exploratory incisions often give relief in bad cases of nephralgia where medicines fail.

Case III.—A movable kidney in a well-developed and well-nourished young woman of twenty-five years. In addition to the ordinary symptoms, the urine contained an immense number of hyaline, granular, and epithelial casts, without albumin. A nephrorrhaphy was done, union by first intention being obtained. Following the operation the number of casts rapidly diminished until they almost if not quite disappeared. The other symptoms were also recovered from.

Is it possible that serious danger to the kidney was here averted by timely operative intervention?

Case IV.—A woman of about thirty-five years, with right movable kidney, which descended as far as the crest of the ilium. A severe and persistent sciatica existed, which had resisted all treatment, and which incapacitated the patient for work. This immediately disappeared on the performance of nephrorrhaphy, and has not returned at the end of more than eight months, except occasionally as a slight soreness at the sciatic notch.

Case V.—A well-nourished woman, between thirty and thirty-five years, fell from a wagon some fourteen years ago, alighting on her back. Shortly after this she experienced, whenever she moved about, severe dragging pains in the pelvis, back, and thighs, and irritation of the bladder. The symptoms disappeared after a rest in bed. Being forced to give up all her duties, she consulted a gynæcologist, who promptly removed the uterus, tubes, and ovaries; but the old symptoms continued as before.

When the patient came under my care, the pelvis being empty, I examined the kidneys and found them both extremely movable. After a rest in the recumbent position, the application of an elastic bandage about the waist, with properly adjusted pads, caused the complete disappearance of the annoying pains.

The patient, however, not liking the belt, insisted upon an operation. Double nephrorrhaphy was accordingly performed, with gratifying results. A stitch abscess, however, resulted in a temporary sinus.

This case would seem to indicate that before resorting to serious and mutilating pelvic operations it would be wise at times to examine the kidneys. It also shows how easy it is to refer kidney symptoms to the pelvic organs.

Case VI.—A man, about thirty years of age, well developed and in good health, had noticed all his life a tumor in the region of the left inguinal canal. This was supposed to be an undescended testis. There was no testicle in the scrotum on that side, and the tumor was of the size and shape of a large testicle, and gave rise to a painfully sickening sensation when pressed upon. At irregular intervals inflammation and swelling took place, giving rise to much suffering and disability. The urine was normal.

At the operation it was only after the most careful scrutiny that what was supposed to be a testicle was found to be an undeveloped kidney lying in the inguinal canal. An atrophied testicle was lodged beneath the kidney, and a hernial sac lay by its side. The kidney was filled with a black fluid, and its ureter was a mere fibrous cord resembling a vas deferens. A radical operation for hernia, castration, and nephrectomy were simultaneously performed, an uneventful recovery resulting.

Case VII.—A boy, twelve years old, fell fifteen feet from a tree, striking his left side on a projecting root. He was collapsed for a time, suffering great pain and passing blood in the urine. In a few hours the temperature went to 103° F., the pulse became rapid, and a tense, tender swelling appeared in the left side above the ilium. No blood was noticed in the movements from the bowels, but blood had not been looked for. On the third day, the high pulse and temperature continuing, an exploratory incision was determined upon, especially as an extraperitoneal rupture of the colon was suspected in addition to injury to the kidney. The kidney was found torn almost in two, and surrounded with a large quantity of fluid blood and urine. The bowel was uninjured. Recovery, after drainage, was rapid and complete.

The propriety of operation in injuries of the kidneys presenting such marked symptoms will not be questioned. It enables us to check hæmorrhage, forestall the formation of an abscess, and save the peritoneal cavity from possible contamination.

Case VIII.—A man, about thirty-five, was shot in the left side with a .45-calibre bullet, which passed downward through the lower portion of the pleural cavity, wounded the kidney, and passed out to the left of the lumbar spine. There being much extravasation of blood and urine, an incision was made down to the kidney for purposes of drainage. Infection, which had already taken place, was soon pronounced, and at the end of several weeks secondary hæmorrhage set in. This was at first easily controlled by packing, but it suddenly became so profuse as to almost exsanguinate the patient. As a desperate resort, a nephrectomy was rapidly done without anæsthesia, the renal pedicle being secured by clamps, which were left in place. The operation required but a few moments. The patient rallied under the liberal use of saline solution, and ultimately recovered. For a long time a fistula remained through which urine frequently regurgitated from the bladder when the individual was in a recumbent position.

From general considerations, and from the course of this particular case, I am inclined to believe the safe procedure in secondary renal hæmorrhage to be a prompt nephrectomy. The unusual feature of regurgitation of urine from the bladder is worth noting.

Case IX.—An emaciated old man of about seventy years suffered from profuse and constant renal hæmorrhage, for which no cause could be detected. His condition was such as to discourage operative intervention, even if anything could have been found to operate for. He had been strongly addicted to the eating of crude opium. The drug had been suddenly taken from him just before the hæmorrhage began. Death from exsanguination shortly resulted. At the autopsy, made by Dr. W. N. Beggs, of Denver, no cause for the bleeding was discovered. The kidneys were apparently normal, except for some moderate fibrous changes which accompany age.

Was the excessive hæmorrhage connected with the opium habit, or was it due to the mild interstitial nephritis?

Case X.—Perinephritic abscess, originating without apparent cause in a young man of about thirty years. Pain and tenderness were at first of such an uncertain character, and the general symptoms so pronounced, that the case was treated as typhoid fever for three weeks by the physician in charge. At the end of this time attention was strongly directed to the back, but even then only the slightest possible fullness could be detected in the left lumbar region. Incision revealed a large abscess surrounding the lower part of the kidney, but not connected with it. Recovery.

Case XI.—A man of over sixty years strained himself severely on the right side of the abdomen, producing an acute inguinal hernia, to which a truss was applied. After a time fever developed, which continued many weeks. When examined, the temperature was 103° F. The right thigh was flexed on the abdomen, and the iliac fossa moderately tender, although no swelling could be felt. A peculiar soft, emphysematous tumor existed near the external inguinal ring, which crackled beneath the fingers and could be reduced within the abdomen, but which lacked the usual characteristics of a hernia. Prolonged observation failing to throw much light on the nature of the case, an incision was made above Poupart's ligament and the peritonæum turned up. A large retroperitoneal abscess was found, extending down from the region of the kidney, and with a fingerlike prolongation alongside the inguinal canal. The cavity contained a great amount of offensive gas and comparatively little pus, although there was no connection with the bowel. The peculiar tumor mentioned above was due to the presence of this gas. An inguinal hernia existed also. A lumbar incision was made for the sake of better drainage. The patient reacted well from the operation, but died from the effects of a heavy fall from his bed during the night.

In such cases the painful contraction of the thigh, together with fever, should call attention to the probable existence of an abscess closely connected with the ilio-psoas muscle.

Case XII.—A man between thirty and thirty-five had suffered for several years with recurring abscesses of the prostate gland, following a perineal operation for stone. There was great irritability of the bladder, which continued, without apparent cause, after the prostatic trouble had been relieved. There was also moderate fever, together with increasing debility and loss of weight. Although it was known that some suppurative disease of the right kidney existed, there was not sufficient pain and tenderness to call marked attention to the organ. No tumor could be felt; but the muscles were too rigid to permit a satisfactory examination. It was finally decided, however, to cut down upon the kidney. Five abscesses were encountered, containing several pints of pus. The kidney, which was incised and drained, was found pushed over to the median line. The abscesses were not connected, and were discovered one after the other by means of an exploring syringe. The bladder symptoms at once disappeared and the patient made an excellent recovery, although a small purulent sinus remained.

This case calls attention to the fact, which is not widely enough appreciated, that irritability of the bladder may be due to affections of the kidneys. The illusion may be so great that the bladder has been frequently considered to be the seat of the trouble, and treated accordingly.

In opening purulent collections about the kidney, we should always satisfy ourselves that more than one abscess does not exist.

Where there is reason to believe, from examination of the urine, that the kidney is involved in the suppurative process, I believe it is wise, when possible, to open and drain that organ at the time of operating, although some advise against this course.

Case XIII.—A woman, perhaps forty years of age, had suffered for years with pain and other symptoms of such character that ovarian and bladder trouble had been diagnosticated. Finally, an enlarged movable kidney was discovered, and a nephrotomy revealed several abscess cavities containing three calculi of moderate size. Drainage was followed by complete recovery. Much damage to the kidney and great suffering might have been prevented by earlier operation.

Cases XIV and XV were cases of suppurative nephritis (possibly pyelonephritis) following parturition. The urine was cloudy with pus in suspension, and there were pain and tenderness in the right lumbar region. A free incision revealed in each case an enlarged and softened kidney, with numerous foci of infection scattered throughout its substance. Drainage and recovery.

These successful cases indicate that even in so-called suppurative nephritis, with disseminated inflammatory foci, nephrotomy, instead of nephrectomy, may result in cure.

Case XVI.—Congenital hypdronephrosis in a girl of twelve years. The tumor was enormous, occupying the entire right side of the abdomen, and extending several inches beyond the median line. At intervals the swelling became more tense, accompanied by pain, vomiting, headache, diarrhœa, etc. Ordinarily there was but little discomfort. On one occasion, at least, a tumor the size of a fist had appeared upon the left side.

The right kidney, exposed through a lumbar incision, was distended into a thin layer, but the hydronephrotic sac was principally from the pelvis. Although it seemed scarcely possible that any secreting substance remained, the kidney was not removed, because of the probable unsoundness of the other organ, and because of the difficulty attending the removal of so large a cyst. The kidney was, however, swung around on its axis, in order to correct, if possible, a hypothetical faulty insertion of the ureter. In the course of two or three days an abundance of urine was flowing from the lumbar incision.

This case demonstrates that when the renal substance appears to be totally destroyed it may still be capable of performing its functions.

I believe it to be preferable, where the soundness of the other kidney is uncertain, to refrain from making a primary nephrectomy. Later, when the hydronephrotic sac has contracted, if a fistula remain, a plastic operation may be attempted upon the ureter. If this should fail, a nephrectomy may perhaps be done.

It should be kept in view, however, that a live patient with a urinary fistula is much preferable to a dead patient. When last heard from the fistula in this case was discharging very little.

Cases XVII and XVIII.—During the past year I have encountered one case of pyelitis and one of suppurative nephritis, due to the colon bacillus, both following fulminating cases of appendicitis with localized purulent peritonitis. No operation on the kidneys was made in either instance. The case of pyelitis recovered, but the suppurative nephritis terminated fatally at the end of seven weeks.

Cases XIX and XX.—I have also seen two cases of pyelonephritis, due to the colon bacillus, arising from catheterization of paretic bladders following distention. Both terminated fatally, with symptoms of general sepsis. Physicians should be on the lookout for these colon-bacillus infections and meet them promptly with urotropin or salol.

Case XXI.—A well-built, healthy looking girl of eighteen years. Since she was four or five years of age she had complained of pain and tenderness in the region of the right kidney. At first the attacks of pain were rather infrequent, perhaps once a month, or not so often. They gradually became more frequent, until during the last five months constant distress has been present. At the time of examination there was much tenderness over the kidney, both anteriorly and posteriorly, although the pain had shifted to a point just internal to the anterior superior spine of the ilium. No history of renal colic or the passage of gravel. The right kidney seemed to be somewhat loose. Jarring the body or pounding upon the lumbar region produced sharp pain.

An examination of the urine disclosed cystine crystals in considerable quantity, together with a moderate number of leucocytes, a few red blood-corpuscles, and many epithelial cells. There were no casts. The urine was neutral, with a normal specific gravity, and contained no albumin.

The diagnosis of cystinuria was made, and it was considered probable that a calculus existed in the right kidney, although the symptoms might be attributed to a movable kidney, or possibly to the presence of the sharp cystine crystals.

While the patient was under observation she fell down a flight of stairs, striking heavily on the affected side. At once the pain, which had existed steadily for so many months, absolutely disappeared, and at the end of a week, when I lost sight of the case, had not reappeared. Tenderness also rapidly subsided. This abrupt cessation of symptoms would seem to point to the existence of a stone, which suddenly, under the influence of the trauma, shifted its position, and ceased to be a source of irritation.

Cystinuria is such an extremely rare disease that Delafield, in the *Twentieth Century Practice,* asserts that but seventy-five cases have been reported. The ætiology is involved in obscurity, and no reliable treatment is known. Dr. J. N. Hall, who saw the case with me, and independently arrived at conclusions similar to my own, developed the interesting fact that the patient could not wear a silver ring during the last five months, owing to its turning black almost as rapidly as it was polished. The explanation of this phenomenon undoubtedly is that those affected with cystinuria exude a certain amount of sulphur through the skin. Cystine itself, as is well known, contains about twenty-six per cent. of sulphur.

The patient was told that if her annoying symptoms returned an exploratory lumbar incision might be advisable.

THE EFFECT OF ATMOSPHERIC CHANGES ON THE HEARING IN CHRONIC CATARRHAL OTITIS MEDIA.*

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It appears to be commonly accepted among the laity, and to a certain extent among physicians, that audition, especially when the auditory apparatus is the seat of a morbid process, is unfavorably influenced by atmospheric changes. With the view of ascertaining the detrimental action of barometric and thermal changes upon the already impaired hearing in catarrhal deafness, fifty consecutive cases of chronic sclerosis of the middle ear were studied over a considerable period of time, and the usual tests were used to determine the variations in the hearing under different atmospheric conditions.

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The normal ear is practically uninfluenced by changes in the weather, excepting that, depending upon the amount of atmospheric moisture, the transmission of sonorous vibrations from a considerable distance is more or less clearly appreciated. This follows well-known physical laws, and when clearly understood enables one to better appreciate the effect of the same atmospheric conditions upon the diseased ear. For the same reason the intimate relationship of the tympanic cavity to the nasopharynx and other portions of the upper respiratory tract must be taken into consideration. The auditory end organ, for it may be so considered, is but a specialized diverticulum of the respiratory areas, and partakes in all respects except in its special function of the histological characteristics of the former. The mucous membrane of the tympanic cavity is but an extension of that of the nasopharynx, and the physical conditions acting upon the mucosa of the latter affect in the same way that of the middle ear. This is not only anatomically demonstrated in health, but becomes especially marked in catarrhal conditions of the mucous membrane of the nose and pharynx, it being an almost constant rule to find diminution of auditory acuity following long-continued catarrh of the nose or throat.

The vast majority of cases of suppuration of the middle ear result from extension of inflammatory nasopharyngeal changes through the continuous mucous membrane of the Eustachian tube and subsequent infection through the same route. It is decidedly uncommon to observe a case of chronic sclerosis of the tympanum without evidences of nasopharyngeal catarrh antedating the aural affection. As a final evidence of the existence of this intimate connection, little can be done toward the improvement or restoration of the impaired hearing until the other portions of the upper respiratory tract are restored to an approximately normal condition. Therefore it becomes necessary for us to regard catarrhal states of the tympanum and catarrh of the nasopharynx as varying manifestations of the same disease, its phenomena varying only by the interference with the functions of the special organ involved, both being subjected to the same atmospheric influences.

As a rule, all the conditions favorable to the production of morbid changes of the respiratory and tympanic mucous membrane are dependent upon a lowering of the general vitality, mainly due to the continuous action of unfavorable climatic or hygienic surroundings. This is of such common experience that it is not necessary to cite individual cases, but it was plainly brought out in the cases studied that in those individuals in whom the hearing was most adversely affected in unfavorable weather a lowering of the general health was present at such times. And when one is run down by disease or other causes, such as fatigue, the susceptibility to temperature and barometric changes is greatly enhanced. Unfavorable climatic conditions also, especially if their action on the individual is repeated or constant, produce a state of more or less systemic depression, which, in turn, reacting upon the mucous membranes, render them less able to resist the morbid causes of catarrhal inflammation.

Primarily the changes in the atmospheric tension cause hyperæmia of the mucous membranes by chilling of the body surface, when the dermal covering is not sufficiently prepared for the action of cold or excessive humidity. This is true in a general sense of the entire mucous membrane system, and especially that of the respiratory tract, but locally the action of lowered barometric pressure may be well observed in the nasal chambers, especially in an individual affected with catarrhal rhinitis. Under these conditions marked congestion and swelling, with increased secretion, result, the turbinal cavernous tissue becomes enlarged, and nasal respiration is decidedly diminished. In bright, clear weather, with a normal or rising barometer, capillary congestion does not take place, and there is no obstruction to the passage of air through the nares.

Besides the relation borne by the auditory apparatus to the upper respiratory tract, the tympanic cavity, in its relation to the normal or varied atmospheric pressure, is related indirectly to the various pneumatic spaces of the head. Changes in the normal atmospheric pressure act the same on the cavities containing air (the antrum of Highmore, etc.) as they do on the tympanum, the pressure exerted in these internal cavities being the same as the pressure exerted upon the external surface of the body. Practically, however, the pressure in the other head cavities does not vary, while the air in the tympanum changes to a certain extent with every act of swallowing, this portion of the pneumatic system being but temporarily in direct communication with the outer air. Upon this fact depends the restoration of hearing in certain cases of beginning catarrhal otitis. By the opening of the Eustachian tube the rarefied air in the tympanum is replaced with the normal pressure air. Diminution of the intratympanic pressure, even to a limited extent, seriously interferes with the transmission of sound waves.

For the reason that all the cases presented well-marked evidences of sclerotic changes of the tympanic tissues, the term chronic sclerotic otitis media is here used as a characteristic designation in preference to the more common one of catarrhal deafness. In all these cases sclerosis and atrophy represent but later stages of a previous cell proliferation, and a complete understanding of the pathological changes occurring in the tympanum is necessary to comprehend the deleterious effect produced on auditory perception by atmospheric influences. The pathogenesis is constantly and slowly progressing from the initial catarrhal inflammation, with its cellular increase, exudation, and overgrowth, to finally sclerosis and contraction, and ultimately atrophy of the mucous lining. When this late stage is reached the blood supply is much limited, the tissues are firm and contracted, and the Eustachian tube and nasopharynx in the majority of cases partake in the more or less general condition. In the pure atrophic stage atmospheric changes in no way affect the greatly diminished hearing capacity; while in the sclerotic stage, where examination of the tympanic cavity shows patches of beginning or well-marked atrophy alongside of areas of cell proliferation or hyperæmia, atmospheric changes invariably impair for the time being the already affected audition.

The degree of hearing impairment is influenced in proportion to the location of hyperplastic tissue situated at or in immediate proximity to the path of the transmission of sound waves. Should sclerotic or atrophic changes exist in practically all portions of the tympanum, except a small area of proliferating connective tissue situated at the point of articulation of the foot plate of the stapes with the oval window, any slight change in the barometric pressure would be immediately appreciated and impairment of hearing rapidly ensue from the additional succulency of this mass of tissue and the resultant interference with the transmission of sonorous vibrations from the ossicular chain to the important structures of the perceptive apparatus. Further, as a result of repeated acute attacks of catarrhal inflammation of the respiratory mucosa, resulting from atmospheric alterations, Eustachian salpingitis is of frequent occurrence, and from the consequent occlusion of the Eustachian tube stagnation of the air in the tympanum results; this air, originally of the same pressure as the surrounding atmosphere, is to a great extent absorbed by the blood-vessels and becomes rarefied. The usual pressure is then removed from the capillaries and they become engorged with blood, and exudation of serum takes place, greatly interfering with the hearing. The hearing is also influenced through atmospheric changes in other ways than this; such as the production of an acute myringitis superadded to the already existing chronic process, and occasionally acute inflammation of the tympanic mucosa may result and produce impairment of audition in the same manner.

In all, fifty cases were under observation, and of these there were thirty-one females and nineteen males. As is well known, females are usually more susceptible to the ill effects of variable weather than males, especially as they are not, as a general rule, exposed as much to the elements as are the latter. Sex, however, bore no relation to the effect of barometric and thermal changes upon the hearing, the proportionate majority of those stating that the hearing was more impaired in damp weather being males. The youngest patient was nine years old, while the eldest was eighty-three. A careful analysis showed that, although the hearing ability was less in those of advanced years than in the younger patients, yet, all things being equal, the age of the individual was in no way a factor concerning the relation of the atmospheric variations to the impaired hearing.

The duration of time since the individual's attention was first attracted to the impaired hearing varied greatly, and from the insidious nature of this form of otitis many of the patients could not state the time when the impaired audition was first noticed. Of these, there were nineteen patients, and all stated that the aural affection had existed for at least two years, but other than this no definite data as regarded the duration could be obtained. In ten the disease had existed for a year; in eleven, between one and five years; in two, between five and ten years; in three, between ten and fifteen years; in three, between fifteen and twenty years, and in the remaining two the affection had existed between twenty and thirty years. The duration of time intervening from the appearance of gradual impairment of hearing to the time when the patients were first seen varied considerably, as usually morbid changes in the tympanum are fairly well advanced before the impairment of hearing is noticed by the patient. A number of the cases bore evidence to this point; one, for instance, as a typical example, stated that the hearing became impaired but one week before he was first seen, but examination showed that the disease had existed for several years, and the impairment of the auditory function had undoubtedly existed for a considerable time, but attention was only directed to it by an attack of coryza caused by sudden change in the weather.

The duration of the affection *per se* bore no relation to the increased impairment of hearing under unfavorable atmospheric changes, this point alone depending upon two factors: First, the amount and location of hyperplastic tissue in the tympanic cavity, and, secondly, the condition of the nasopharynx and Eustachian tubes. Of the first factor, the location of the hypertrophied tissue has been referred to, and requires no further consideration here; the amount of new tissue or cellular proliferation is also an important factor in determining the influence of atmospheric changes upon audition in the specific case. Of the fifty cases, eleven presented every evidence of a general atrophic condition of the tympanum, and in all these the hearing was greatly impaired both for aerial and bone conduction; four of these stated that some time in the past the hearing was worse on rainy or damp days, but not to any marked extent, while in the remainder atmospheric conditions had no influence at all. At the time the cases were examined, however, all gave evidence that barometric changes were entirely negative.

Twenty-one cases presented at the same time various phases of the pathological changes incident to catarrhal otitis, the examination disclosing that the atrophic condition was not as well marked as were the sclerotic and hyperplastic changes. All of these were influenced by thermic and barometric changes, varying in degree of the impairment of audition with the individual case; while in the remaining eighteen the hyperplastic condition predominated and the hearing was markedly diminished during long-continued spells of damp, rainy weather, or when there were sudden atmospheric changes.

In this affection especially the three morbid stages mentioned do not always follow each other in sequence; many are sclerotic or atrophic from the commencement, while in others areas of hyperplasia may remain for a number of years and shrinking and absorbing changes not take place till after long periods of time. It will be seen, therefore, that the susceptibility of the affected ear to adverse weather conditions depends to a great extent upon the special pathological condition present and not upon the duration of time the affection has existed.

Attention was not especially paid to the influence exerted by the upper respiratory tract; but, independent of the aural pathogenesis, it was found that thirty-two of the cases complained of nasal obstruction, especially marked in rainy weather, and when this occurred the hearing was more diminished than when the turbinal swelling did not exist and when the nares were free. Whether one or both ears were affected was of no consequence at all. In thirty-nine cases both were involved; in seven, the right only, while in the remaining four the affection was limited to the left side. The degree of hearing may fluctuate from day to day, dependent upon the changes in the weather, and frequently, as a result of the catarrhal salpingitis usually present, there is an associated sense of fullness in the ears, referable to the Eustachian obstruction from the barometric changes.

Three factors in the climatic conditions exert to a greater or less extent their influence upon the aural tissues in morbid changes of the tympanum; these are the humidity, barometric pressure, and temperature. Of minor importance are the electrical and other phenomena associated to a much less degree with the three prominent factors. The action of barometric pressure and humidity has been considered, while the effect of purely temperature changes is most difficult of explanation, but, so far as can be seen, practically exerts little influence. Generally, however, patients with catarrhal deafness will state that they are worse in the winter months, and during the heated term of summer the symptom-complex, and especially the deafness, is much less prominent. In all probability it is not the cold of winter that exerts a more deleterious action upon the ear than the higher temperature of summer, but the explanation seemingly lies in the excessive dampness of the winter months and the consequent tendency to the production of catarrhal changes of the respiratory and aural mucous membranes.

It may be here pointed out that catarrhal affections are most frequent in the transitional periods of autumn, and especially in the spring, during which times sudden alternations of cold, heat, dampness, and moisture become unduly exaggerated. The deleterious effects of climatic conditions upon the auditory apparatus depend therefore not to such an extent upon the yearly range of temperature, humidity, and pressure as upon the suddenness with which these conditions are apt to vary in a given period of time. For this reason catarrhal otitis is most common in localities where sudden changes occur in varying rapidity.

Conclusions.—1. The hearing in at least seventy per cent. of cases with chronic catarrhal deafness becomes worse under adverse weather conditions.

2. The degree of impairment of audition, as influenced by atmospheric changes, is determined to a great extent by the location and character of the pathological process in the tympanic cavity.

3. The morbid alterations most susceptible to barometric variations are those of hyperplasia.

4. In purely atrophic changes in the middle ear weather variations have little or no effect upon the auditory function.

5. Atmospheric influences also impair the hearing by unfavorably affecting catarrhal processes of the upper respiratory tract and Eustachian tube.

6. All things being equal, the impaired audition in chronic catarrhal otitis is diminished more (under unfavorable weather influences) in those whose general health is below par than in those otherwise healthy.

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A CLINICAL NOTE ON

THE CONNECTION BETWEEN ASTHMA AND ECZEMA.

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That there is some close connection between eczema and asthma is admitted by most authorities, and the following case, in addition to many already noted, points to the fact that whatever the condition of the bronchial mucosa is—whether catarrhal or erythematous—it is in close sympathy with that superficial dermatitis we term eczema.

The patient was a boy, aged eight years, of a somewhat strumous aspect. His mother suffered from asthma, but there is no history obtainable of any other relation having suffered from this complaint, or from gout, rheumatism, or any neurotic trouble. The patient himself, however, had some epileptiform convulsions when a baby, though his teeth show no "pitting"; he has had neither measles nor whooping-cough, and there is no evidence of any naso-pharyngeal adenoid growths.

His bowels are regular and his appetite is good. His one brother, younger, is up to the present quite healthy. At the age of six the patient had a severe attack of eczema, which, though under treatment, showed for six months no signs of improvement; the dermatitis then began to gradually disappear.

During the next year, however, he had another attack, so severe that his mother states that he became "almost blind"; while this second attack was clearing up he had his first asthmatic seizure. Then for a few months he suffered from asthma and eczema, the attacks being sometimes concurrent, sometimes definitely alternating, sometimes overlapping each other, the patient at no time being quite free from either.

Latterly, however, he has had intermissions of four to five weeks in the asthmatic fits, but his skin has been in a state of more or less chronic eczema or xerodermia.

He came under my care for a recent exacerbation of the dermatitis, the flexures of his hands, wrists, arms, and legs, his face and trunk being in a pitiable condition from the intense irritation and subsequent scratching and pus inoculation. After a few weeks' treatment this condition was becoming materially ameliorated and his skin resuming its usual xerodermatous condition, when he presented himself one morning with a typical asthmatic attack. I then elicited from his mother the above history.

Dr. Gee, in his Lumleian Lecture, 1899, cites two interesting cases of a similar nature—the one a girl, aged eleven, had, when a baby, eczema, but from the age of two had suffered from asthma; a younger brother had a like history. On the father's side there was evidence of gout and eczema; on the mother's, of an asthmatic tendency; the other, a boy of two and a half years, suffered from the age of six to twelve months from eczema, which then cleared up and he became asthmatic.

It has been argued, because of the sudden development of the symptoms of asthma and their subsequent rapid cessation, that the disease must be of the nature of some spasmodic contraction of the bronchial muscles, but when one remembers how quickly the vasomotor disturbance producing an urticarial "wheal" may occur and subside, I do not think that we have sufficient reason for putting "out of court" the theory that asthma may be due to some sudden vascular engorgement or erythematous "blush" of the bronchial mucosa, though this very sudden rise and fall of the bronchial symptoms militates against the view held by some that asthma is really "eczema" of the bronchial tubes. Eczematous eruptions are unfortunately anything but of an evanescent nature.

Certain articles of diet, by producing gastric irritation, may cause an eczema or asthma, sometimes both simultaneously; and Morris points out that a person may take a chill which subsequently may develop not into a bronchial catarrh but into an attack of dermatitis, and he goes on to say that "both eczema and asthma are the response by the skin and respiratory mucous membrane, respectively, to some central or peripheral irritation to which both alike are exposed."

Brocq insists that the rapid disappearance of an eczematous eruption—a happy but too infrequent consummation—may lead to dangerous pulmonary congestion, though, according to the same authority, it is more usual in middle life that eczema alternates with visceral—pulmonary, cardiac, or cerebral—lesions.

The influence of gout and rheumatism as constitutional and predisposing causes of eczema is more in evidence in middle life, while the eczema of children is usually of the seborrhoic type, starting from the head (Morris).

While the problem of the connection between eczema and asthma is still unsolved, we can only ask in Dr. Gee's words, "What is the bond which in so many cases connects the several diatheses of asthma, gout, and eczema?" But we can hope that one day a satisfactory answer will be given to a question of so much theoretical and practical interest.

THE TREATMENT OF FOLLICULAR AND SUPPURATIVE AMYGDALITIS AND THE ANGINA OF SCARLET FEVER BY THE INJECTION OF A SOLUTION OF CARBOLIC ACID.

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HEUBNER, of Leipsic, first suggested the injection of a solution of carbolic acid in the treatment of the angina of scarlet fever, and the successful results obtained prompted others to try the same measure.

Professor Seitz, the director of the Children's Polyclinic at Munich, reports excellent effects by this treatment in scarlet fever, but did not find it of service in diphtheria.

Having been a frequent sufferer from follicular amygdalitis, the writer has used this method on himself after other remedies failed, and received such relief that he concluded to use the treatment in similar cases. The results have been fairly satisfactory.

The method of procedure is simple. Professor Seitz used a three-per-cent. solution of carbolic acid and injected a few drops into each tonsil at several points. A small syringe was used with a long needle having a shoulder about four millimetres from the point, to prevent too deep introduction and consequent injury to the larger vessels. After having used in several cases an ordinary hypodermic syringe with an extra long needle, we procured a special one. The shank and needle proper are together about six centimetres long and have the extremity turned at an angle of forty-five degrees, the elbow being about three millimetres from the point.

This form of needle permits the operator to inject the solution into the tonsils easily and safely, the elbow preventing too deep introduction. In children it was necessary, of course, to use a mouth gag and a tongue depressor.

The solution has varied in strength from one per cent. to four per cent. Cognizant of the fact that carbolic-acid solutions, even as weak as one per cent., often produce serious gangrene in children, particularly of the extremities, when applied in poultices or otherwise, it was with some hesitation that even a one-per-cent. solution was used in the younger patients. No bad effects were noticed, however, probably on account of the great vascularity of the tonsils.

The results of this method of treatment are based upon nineteen cases—not enough, perhaps, to establish positively its merits, but the results have been satisfactory in proper cases, and therefore the remedy merits further trial.

The cases under observation in which this method was tried include five of scarlet fever, six of diphtheria, three of suppurative, four of simple, and three of follicular amygdalitis. A brief *résumé* of the results obtained may perhaps be of interest. All but two cases were among children from eight months to fifteen years of age.

In cases of diphtheria no beneficial effects were observed, at least none that could be ascribed to the carbolic-acid injections, since antitoxine was used immediately in all cases together with other appropriate treatment. In fact, I believe that this method may really be harmful in diphtheria, since it may destroy the combative influence of the staphylococci on the Klebs-Loeffler bacillus.

There was no doubt about the value of this procedure in the cases of scarlet fever. Immediate relief was obtained, with a prompt reduction of the fever and an improvement of the general condition. These cases occurred in girls of four, six, and seven years of age. In the youngest patient, the first one treated, a one-per-cent. solution was used, and in only one tonsil; and, as some relief and no bad effects were observed, a few hours later both tonsils were injected with a three-per-cent. solution. In the two other cases only a single injection was necessary, none of the cases being of a severe type.

The four cases of simple amygdalitis were seen in the early stages, and, as prompt abortive measures were tried in conjunction with the injections of carbolic acid, it is impossible to measure the exact value of the injections. All cases responded to the treatment quickly.

More positive results were obtained in follicular and suppurative amygdalitis where the cases were seen sufficiently early. For example, in one case the left tonsil, which was the more inflamed, was treated. The relief was immediate, so that in a few hours the right tonsil, which was as yet but slightly inflamed, seemed to be much the worse. In another case where both tonsils were treated, the one which had become inflamed first was not benefited so much, the process having proceeded too far, but the condition of the inflammation of the other tonsil was aborted.

A prominent physician of this city presented himself for treatment, and, after informing him of the pleasant results which had been obtained, the injections were permitted. He had suffered from suppurative amygdalitis several times previously. One tonsil alone was affected and the inflammatory process had but fairly begun. A three-per-cent. solution was used, and next day he informed me that although he had suffered some inconvenience from the apparent hyperæmia of the tonsil after the anæsthetic effect of the acid had disappeared, the inflammation had subsided and the condition was greatly improved.

In children, amygdalitis occurs more frequently than is generally supposed, and, unless a physician examines the throats of all children systematically, many cases will escape notice. Gargles, sprays, and similar measures are not easy to employ in children, and can not be used in infants at all. With proper assistance, however, it is not difficult to use the injections.

No carbolic-acid intoxication was observed, nor was there any sloughing of the tonsillar tissue, which was greatly feared in the younger children.

1184 Broadway.

Therapeutical Notes.

Lactic Acid as a Remedy for Baldness.—Balzer (*Semaine médicale*, May 19th; *Fortschritte der Medicin*, September 20th) practises friction of the bald part daily with a thirty-per-cent. solution of lactic acid until the skin becomes inflamed. Then the treatment is suspended for a few days, and resumed when the inflammation has subsided. He reports that he has often observed a new growth of hair in the course of three weeks.

For Facial Neuralgia.—*Riforma medica* for July 1st ascribes the following to Bocquillon-Limousin:

℞ Butyl chloral hydrate, } of each, 150 grains;
Alcohol, }
Glycerin .... 300 "
Distilled water .... 1,800 "
M. Half a soupspoonful to be taken daily.

For Chronic Rheumatism.—*Settimana medica* for September 9th recommends euphorine in doses of from three to six grains. From two to four doses may be taken daily.

Acetylsalicylic Acid (Aspirin).—Wohlgemuth and Witthauer (*Therapeutische Monatshefte; Fortschritte der Medicin*, September 6th) find this preparation less apt to produce gastric derangement than sodium salicylate. It is given in daily amounts of from sixty to seventy-five grains, on sugar or in water.

Pyrogallic Acid in the Treatment of Psoriasis.—Richter (*Monatshefte für praktische Dermatologie; Deutsche Aerzte-Zeitung*, September 15th) recommends the following formula:

℞ Salicylic acid,	each .... 3 parts;
Pyrogallic acid,	
Ichthyol,	
Olive oil	10 "
Wool fat	100 "

M. The action of the pyrogallic acid is said to be much intensified by the presence of the salicylic acid and ichthyol, but the ointment does not irritate the eyes or stain the skin.

For Constipation.—*Riforma medica* for August 19th attributes the following to Lyon:

℞ Aloes,	of each... 75 grains;
Extract of rhubarb,	
Alcoholic extract of nux vomica.	30 "

M. Make twenty-four pills. One to be taken in the evening.

The Treatment of Acute Gonorrhœa.—P. Albarran (*Revista de Medicina y de Cirugía Practicas*, August 10th; *Journal of the American Medical Association*, October 7th) asserts that the failure of the usual methods of treating gonorrhœa is owing to the folds and crevices of the membrane lining the urethra, in which germs may lurk sheltered from the irrigations. He suggests, and has been very successful with, a method consisting of distending the urethra with air. He injects two cubic centimetres of pure ichthyol and three cubic centimetres of air with a ten-cubic-centimetre syringe inserted through a perforated cone, which serves to prevent the escape of the air, when held against the orifice for one to three minutes while the urethra is lightly massaged.

Syrup of Creosote.—*Riforma medica* for July 13th gives the following:

℞ Pure beech creosote	75 grains;
Pure glycerin	1,200 "
Syrup	13,725 "

M.

A soupspoonful holding three hundred grains contains a grain and a half of creosote. From five to six spoonfuls to be taken daily, before meals.

Tropacocaine as a Dental Anæsthetic.—Dorn (*Odontologische Blätter; Klinisch-therapeutische Wochenschrift*, September 24th) gives the following as Vamossy's formula:

℞ Tropacocaine hydrochloride	3 parts;
Sodium chloride	6 "
Distilled water	100 "

M. The solution is said not to need sterilizing and to keep indefinitely. Dorn has used it in more than three hundred cases of tooth extraction, and never witnessed any untoward effects.

Syrup of Guaiacol.—*Riforma medica* for July 13th gives the following formula:

℞ Crystallized guaiacol	113 grains;
Pure glycerin	1,388 "
Syrup	13,500 "

M.

A soupspoonful (three hundred grains) represents two and a quarter grains of crystallized guaiacol. From five to six soupspoonfuls daily during meals.

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INTER-STATE RECIPROCITY IN GRANTING THE LICENSE TO PRACTISE.

In our issue for August 12th we spoke in commendation of a movement set on foot by the Wayne County (Michigan) Medical Society looking toward securing cooperation in various States in the establishment of as near an approach to uniformity of State license requirements as might seem attainable. At that time the society had intrusted its scheme to a committee consisting of Dr. George G. Gordon (president), Dr. E. B. Smith, Dr. F. D. Summers, Dr. E. H. Troy, and Dr. E. Amberg (secretary), which committee had sent a circular of inquiry to the proper authorities of each State and Territory.

The committee announce now that they have received, up to September 14th, answers from thirty-nine States and Territories, and that almost all these answers are favorable to the more important features of the undertaking—that is, they express an inclination to consider favorably the plan of entering into reciprocity with other States and Territories having practically the same requirements as their own, together with a willingness to cooperate in preparing a memorandum to serve as the basis of proposed legislation in the various States concerned. The committee add that the few unfavorable answers received were accompanied by explanations which warrant the hope that it is practicable to overcome certain difficulties which do not at present allow of a favorable reply. They report also that from other sources they have met with encouragement and their plan has received approval. In this connection, they are kind enough to mention our article.

We are glad to learn of the degree of success that has attended the committee's efforts in this undertaking, and we feel like urging all medical societies that deal at all with such matters to give the Wayne County Medical Society as full a measure of support and cooperation as possible. No doubt there are difficulties in the way of absolute uniformity of requirements, but the limited and reasonable reciprocity that our Michigan brethren are seeking to secure seems to us feasible. It certainly is desirable. Events succeed each other rapidly in these closing years of the nineteenth century, and the unhoped-for comes to pass almost before we have had time to realize what its fulfillment would mean. Let us, therefore, never despair of the consummation of a desired improvement.

THE CAUSES OF PYORRHŒA ALVEOLARIS.

This common affection is generally known in this country as Riggs's disease, though it was described by Fauchard so long ago as in 1728. Its pathogeny has been the subject of considerable difference of opinion among dentists; some have held that it was of constitutional origin. Dr. William J. Younger, of Chicago, who has made a particular study of the disease, read his most recent paper on it before the New York Institute of Stomatology in April of this year, and the communication, together with the discussion on it, was published in the July number of the *International Dental Journal.*

Dr. Younger does not believe that the disease is of constitutional origin, although he grants—what is not at all inconsistent with his own theory—that perfect systemic health enables the individual to so resist its progress as to make its course a protracted one. But perfect health, he insists, does not confer immunity, and no constitutional vitiation will of itself produce the disease. He regards it as essentially bacterial, but not in its inception; the first step, he thinks, is traumatism. This traumatism, he says, is brought about by some insoluble foreign substance lodging in the fold of the gum that surrounds the neck of the tooth and leading to irritation that subsequently brings on an inflammatory action which extends to the alveolar process. Among these foreign substances, he mentions little grains of sand, seeds of berries, husks of oatmeal, minute flakes floating in beer, little fragments of the skin of fruit or its core, bristles from the toothbrush, and various forms of the detritus of food. As regards this point, we may suggest that toothbrush bristles may not only themselves become detached and lodge between the gum and the tooth, but also force into that recess particles which otherwise would hardly enter it. We regard the bristle toothbrush as unfit for use. One made of badger's hair will answer every purpose, and, we think, can be trusted not to invade the sockets of the teeth. That abomination, the wooden toothpick, too, doubtless often leaves some of its frizzly fibres between the gum and the tooth, to lead to just the irritation that Dr. Younger regards as the starting-point of alveolar pyorrhœa.

Dr. Younger feels quite certain that his investigations, conducted in conjunction with Dr. G. W. Cook, of Chicago, so far as the bacteriology was concerned, have led to the discovery of the specific organism of the disease, which he describes as a very short, round bacillus, slightly motile at the normal temperature of the body, but showing little movement at that of 70° F. It is a facultative aerobic, he says, growing when either exposed to the oxygen of the atmosphere or deprived of it, liquefying gelatin, and forming a brownish coating on agar-agar, in which medium it grows readily and freely. In blood serum it seems to take on a stronger growth, appears in chainlike forms, and after ten or twelve days apparently produces spores. It is not found along the alveolar edge of the tooth or in the collections of tartar at the gingival margins, but only in "the deep-seated pockets where the advance guard of the disease is progressing." The periodontal membrane must suffer perforation, he thinks, before the bacillus can play its part in the progress of the disease. Dr. Younger's conception of the pathogeny of pyorrhœa alveolaris seems reasonable and well borne out by observation so far as it has yet gone, and we look to see him reporting data still further confirmatory of his views.

AN ENDEMIC OF NEURALGIA.

A remarkable observation is recorded by Dr. Wille, of Oberdorf (*Münchener medicinische Wochenschrift*, 1899, Nos. 33–35; *Deutsche Medizinal-Zeitung,* September 25th), that of the occurrence of a hundred and twelve cases of neuralgia between the 10th of August and the 10th of November, 1898, fifty of which occurred in his own practice, and the rest among his colleagues' patients. The physicians of Oberdorf could not satisfy themselves that the outbreak had any connection with zoster, masked malaria, primary multiple neuritis, or influenza. The last-mentioned condition seems to us the most probable cause of the endemic, and it is difficult to see how it could be absolutely excluded. The author, indeed, has little to say of the exciting causes of the endemic, but gives considerable attention to the predisposing causes. As regards locality, he observed that the outbreak was severest where the ground was marshy. The weather seemed to have no ascertainable influence. Women appeared to be attacked a little more commonly than men, in the proportion of fifty-seven to forty-three per cent., and more than half the cases occurred in persons between twenty and forty years old. As to the preponderance of the affection among women, the author speculates upon the periodically recurring function of menstruation and the like, but somewhat unsatisfactorily, it seems to us. Only in seven cases was a neurotic diathesis apparently operative in inviting the attack.

An endemic of neuralgia is certainly notable. Occurring in such an old community as that of Oberdorf, it ought to be readily recognized as connected with malarial poisoning or not. Primary multiple neuritis, too, should admit of ready recognition, if it existed, and the same may be said of malarial poisoning, however masked. We are still inclined to hazard the suggestion that the endemic was one of the multiform expressions of influenza.

THE OVERWORKED MEDICAL STUDENT.

In our issue for September 16th we said that medical men were alive to the damage that was being done to youth by the forcing system in their education, and we added: "That fact makes it all the more disgraceful that our medical schools are among the most flagrant scenes of its execution." Our esteemed contemporary the *Journal of the American Medical Association* thinks we are in error. In its issue for September 30th it says: "The errors of the medical curricula—and they may be numerous enough in the present transition state of medical education—are not that they are too thorough and advanced. Up to date they have not been advanced enough. Nor do we want a low average in our profession, something above mediocrity should be the aim. The foolishness of 'forcing' has not yet revealed itself in American medical education." We should be sorry to have it thought that we deprecated the advance of medical education. What we had in mind was the cramming of the medical student's memory, a process that is burdensome and unnecessary. We try to stock him with knowledge, whereas the proper end of schooling is to teach the pupil how to study to the best advantage, so that he may eventually become wise as well as learned. To be a good mathematician, a man need not commit the table of logarithms to memory.

EPILEPTIC PRIAPISM.

Féré (*Médecine moderne*, 1899, No. 10; *Monatshefte für praktische Dermatologie*, September 1st) relates the case of a boy, twelve years old, in whom epileptic seizures were for a time replaced by attacks of erythropsia and for another period by exceedingly painful erections. Both the convulsions and the priapism yielded to the bromide treatment. We do not gather from the account that the priapism was persistent, as is sometimes observed in leucocythæmia, but we think an examination of the blood in this case would be of interest.

AN ALLEGED PREVENTIVE OF THE PLAGUE.

Mr. Shamsudin J. Sulemani, of Baroda, states in the *Lancet* for September 16th that for nearly a year free use has been made in Baroda of certain pills as a preventive of the plague. Each pill contains two grains of quinine, a quarter of a grain each of ipecac and camphor, and a quarter of a minim of carbolic acid. A pill is to be taken twice a day. The writer gives observations which convince him that these pills are very efficacious. We can only hope that he is not mistaken.

A NEW CONCEPTION OF TEETOTALISM.

Newspaper medicine seems to flourish even in Greece. Dr. Achilles Rose translates as follows a paragraph that appeared in an Athenian daily paper recently: "It is known that the remedy against alcoholism employed in England and in the United States of America consists in the exclusive use of tea as a beverage. The followers of this system are called teatotalers [*sic*]. But the remedy is as pernicious as alcoholism itself. Many die after a few years of the tea habit, because they drink tea too frequently and take overdoses." The writer goes on to state that a certain American dramatic artist, mentioned by name, is the latest victim, and adds: "And now a crusade has been inaugurated in the United States against the use of tea."

THE TEXAS EMBARGO AGAINST NEW ORLEANS.

It is stated that the attorney-general of Louisiana has taken steps before the supreme court of the United States to obtain an injunction restraining the Texas authorities from enforcing an embargo against New Orleans on account of reports of the existence of yellow fever in that city. Without going into the merits of this particular case, we may express our decided conviction that the sooner the petty business of local quarantine is given up for good the better it will be for the entire country.

THE LOOMIS SANITARIUM.

We regret to learn of a destructive fire having occurred by which one of the buildings has been rendered at least uninhabitable for the time being, but we are glad to be able to add that it was not accompanied by loss of life.

"SICK" OR "ILL"?

Last Sunday the *New York Times* printed a letter which ended with the following statement: "'Reliable' is still a vulgarism in British literary circles, while 'sick' for ill has always been universal in Ireland, whence, like 'mad,' it was probably imported into this country, where, by a far-fetched method of reasoning, because the driver of a vehicle holds the reins the person who is driven is said to 'ride'—a word in England applied only to being carried on the back of some animal, two-legged or four-legged, more properly the latter." Are we to infer, then, that the phrase "in sickness and in health" got into the *Book of Common Prayer* by Irish machination, and that King James's translators were under Irish influence when they wrote "I was sick and ye visited me"?

INJURIES TO WOMEN IN COITION.

Under the heading Venus Cruenta Violans interdum Occidens (*Monatsschrift für Geburtshilfe und Gynäkologie*, ix, 3; *Deutsche Aerzte-Zeitung*, September 15th), Neugebauer analyzes a hundred and fifty-seven cases of these injuries, including laceration of the perinæum, of the sphincter ani, and of the posterior vault of the vagina with rupture of Douglas's pouch and protrusion of coils of small intestine, injuries of the bladder, perforation of the recto-vaginal sæptum leading to fistula, etc. In twenty-two cases death followed in consequence of hæmorrhage, sepsis, or peritonitis. Three women, the successive brides of a hairdresser of the Faubourg St.-Martin, are said to have died of injuries sustained in the first intercourse. It seems that it is not alone among the ignorant and brutal that these injuries occur; two of the women whose cases are mentioned were physicians' wives.

ZOSTER AND FACIAL PARALYSIS.

NERVOUS trouble of an unusual extent and variety seems to have been connected with zoster in a case recorded by Grassmann (*Deutsches Archiv für klinische Medicin*, lix; *Fortschritte der Medicin*, September 27th). It began with sensory irritation in the region innervated by the right cervical plexus, and in a few days an herpetic rash appeared within that region, also in that of the third branch of the trigeminal and that of the facial. The rash disappeared in about eighteen days, leaving scars. During the existence of the rash there were symptoms of vasomotor irritation, such as swelling of the right cheek. On the eleventh day of the rash complete paralysis of the right facial nerve set in suddenly, and there were traces of it about six weeks later. After the subsidence of the rash there was excessive cutaneous sensitiveness in the area supplied by the cervical plexus, together with continued neuralgia.

DEGENERACY AND GENIUS.

ACCORDING to the *Medical News* for October 7th, Lombroso has at last found a genius whom he can acquit of insanity. He has thus honored the memory of Goethe in a recent article in an Italian literary journal in which he refers to him as a normal, healthy, and sublime poet. This is an offset to his recent assertion in the *Forum* that Columbus was a paranoiac. The *British Medical Journal* for July 29th trenchantly traverses in a humorous manner Lombroso's evidences of insanity in Columbus and concludes: "Most people would doubtless prefer to be mad with Dante, Shakespeare, and Columbus to being sane with the ideal man of the criminal anthropologist, who writes like copper plate and has everything smug and symmetrical about him." We think so too.

THE death of Mr. William H. Appleton, for many years the senior member of the firm of D. Appleton and Company, the publishers of this *Journal*, deprives the community of a useful citizen, one among the foremost in laudable public undertakings. Mr. Appleton was a sterling friend to the medical profession, among which he had many close friends. He died on Thursday, October 19th, in the eighty-sixth year of his age.

ITEMS.

The Buffalo Academy of Medicine.—At the last meeting of the Section in Pathology, on Tuesday evening, the 17th inst., the following papers were presented for discussion: A Case of Poliencephalomyelitis in an Adult presenting the Clinical Symptoms of Landry's Paralysis and Terminating Fatally in Nine Days, by Dr. Dewitt H. Sherman; and The Significance of Chronic Rhinitis in Relation to Ocular Affections, by Dr. Edmund E. Blaauw.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending October 14, 1899:

Small-pox—United States.

Jefferson County, Ark.	Oct. 4	20 cases.
Pulaski County, Ark.	Oct. 4	6 "
Butler County, Kan.	Oct. 2	5 "
Chelsea, Mass.	Sept. 30-Oct 7	1 case.
Cincinnati, Ohio	Sept. 30-Oct. 7	2 cases.
Cleveland, Ohio	Sept. 30-Oct. 7	1 case
Dayton, Ohio	Sept. 30-Oct. 7	2 cases.
Allegheny, Pa	Sept. 30-Oct. 7	3 "
Memphis, Tenn.	Sept. 30-Oct. 7	2 "
Portsmouth, Va	Sept 30-Oct. 7	2 "
Seattle, Wash	Sept. 20-30	1 case.

Small-pox—Foreign.

Teneriffe, Canary Islands	Sept. 16-23		2 deaths.
Athens, Greece	Sept. 16-23	7 cases,	2 "
Bombay, India	Sept. 5 12	10 "	
Madras, India	Sept. 2-8		1 death.
Naples, Italy	Sept. 14-21		1 "
		Imported from British East Africa.	
Chihuahua, Mexico	Sept. 22-30		7 deaths.
City of Mexico, Mexico	Sept. 10-30	21 cases,	11 "
Cuchio, Mexico	Sept. 29	25 "	
Mulatto, Mexico	Sept. 29	12 "	
Nuevo Laredo, Mexico	July 1-Aug. 24		3 "
Ojenega, Mexico	Sept. 29	50 "	
Pilares, Mexico	Sept. 29	15 "	
Progreso, Mexico	Oct. 7	30 "	
San Antonio, Mexico	Sept. 29	20 "	
San Felipe, Mexico	Oct. 7	100 "	
San Francisco, Mexico	Sept. 29	5 "	
San Juan, Mexico	Sept. 29	100 "	
Suarez, Mexico	Oct. 7	40 "	
Vado de Piedras, Mexico	Sept. 29	20 "	
Moscow, Russia	Sept. 8-16	2 "	
Odessa, Russia	Sept. 16-23	4 "	
St. Petersburg, Russia	Sept. 8-16	1 case.	
Straits Settlements, Singapore	Aug. 19-26		3 "

Yellow Fever—United States.

Key West, Fla	Oct. 6-10	137 cases,	4 deaths.
New Orleans, La.	Oct. 5-12	8 "	2 "

Yellow Fever—Foreign.

Matanzas, Cuba	Oct. 3	1 case (soldier).	
Nuevitas, Cuba	Sept. 10-16	1 "	
Santiago, Cuba	Sept. 16-23	4 cases.	
Vera Cruz, Mexico	Sept. 22-28	9 "	4 deaths.
Victoria, Mexico	Oct. 6	Reported.	
Vicinity of city of Salvador, Salvador	Sept 1	11 cases,	1 death.

Cholera.

Calcutta, India	Aug. 25-Sept. 2		4 deaths.
Karachi, India	Sept. 2-9	1 case,	1 death.

Plague.

Alexandria, Egypt	Sept. 17-24		1 death.
Magudo, Lorenzo Marquez.	Sept. 22	Reported.	
Bombay, India	Sept. 5-12		87 deaths.
Calcutta, India	Aug. 25-Sept. 2		54 "
Karachi, India	Sept. 2-9	3 cases,	3 "

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 14th inst., Dr. I. N. Love read a paper entitled Appendicitis from the Medical Standpoint, which was discussed by Dr. E. S. Lemoine, Dr. Pinckney French, Dr. M. P. Morell, and others.

Changes of Address.—Dr. B. M. Hawley, from Morristown, New Jersey, to No. 355 West Twenty-eighth Street, New York; Dr. Charles A. Jersey, to No. 203 West One Hundred and Thirty-first Street, New York; Dr. Walter Keene Wilkins, to No. 237 West Thirty-eighth Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 7 to October 14, 1899:*

Block, W. H., Acting Assistant Surgeon, United States Army, will proceed to Socorro, Cuba, for duty, relieving Macy, Robert C., Acting Assistant Surgeon, who will report at El Caney, Cuba, for station, relieving Lawrason, George B., Acting Assistant Surgeon, United States Army, who, when thus relieved, will proceed to Havana.

Boyd, Robert, Acting Assistant Surgeon, United States Army, is assigned to temporary duty at the General Hospital, Presidio of San Francisco, awaiting transportation to the Philippine Islands.

Brown, Ira C., Major and Surgeon, United States Volunteers, will proceed to the Philippine Islands on the transport *Valencia.*

Chmelicek, Joseph F., Acting Assistant Surgeon, United States Army, is assigned to duty as attending surgeon at Fort Winfield Scott, California, relieving Cohen, H. M., Acting Assistant Surgeon, United States Army, who will proceed to the Philippine Islands on the transport *Valencia.*

Dean, Elmer A., First Lieutenant and Assistant Surgeon, United States Army, will report for duty as surgeon at camp of recruits and as medical inspector of regimental and recruit camps on the Presidio reservation, relieving Powell, Junius L., Major and Surgeon, United States Army, who will proceed to the Philippine Islands on the transport *Zealandia.*

Ebert, R. G., Major and Surgeon, United States Army, accompanied by Schuelke, Julius A., Major and Surgeon, Thirty-fifth Infantry, will proceed to Portland, Oregon, and make a thorough sanitary inspection of the steamers *Rio de Janeiro* and *Sikh,* United States transports, upon their arrival at that city.

Hartsuff, Albert, Lieutenant-Colonel and Deputy Surgeon-General, United States Army, will proceed to Fort Thomas, Kentucky, and inspect the camp of the Forty-eighth Infantry.

Millhoff, Clarence B., First Lieutenant and Assistant Surgeon, United States Army, will report to the commanding general, Department of California, for assignment to duty with troops going to Manila.

Perley, H. O., Major and Surgeon, United States Army, will proceed to the Philippine Islands on the transport *Rio de Janeiro* to join the hospital ship *Relief.*

Stark, A. N., Captain and Assistant Surgeon, United States Army, will report to the commanding officer, Columbia Barracks, for duty at that post.

Van Tuyl, W. R., Acting Assistant Surgeon, United States Army, is relieved from duty at the United States General Hospital, Presidio of San Francisco, and will report to the commanding officer of that post for duty at the camp of recruits, and as a member of the board of medical officers, *vice* Cattermole, Charles A., Acting Assistant Surgeon, United States Army, ordered to the Philippines.

Warren, Stanley S., Acting Assistant Surgeon, United States Army, will proceed to Fort Clark, Texas, for duty, relieving Woodson, Robert S., Captain and Assistant Surgeon, United States Army, who will proceed to San Francisco for duty.

The following officers are detailed to represent the Medical Department of the Army at the annual meeting of the American Public Health Association at Minneapolis, Minnesota, from October 31st to November 3d: Reed, Walter, Major and Surgeon, United States Army; Bradley, Alfred E., Major and Surgeon, United States Volunteers (Captain and Assistant Surgeon, United States Army).

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending October 13, 1899:*

Atlee, L. W., Surgeon. Detached from the *Solace* and resignation accepted.

Bagg, C. P., Passed Assistant Surgeon. Detached from the *Pensacola* and ordered to the *Solace.*

Hawke, J. A., Medical Inspector. Promoted to medical director.

Lewis, D. O., Surgeon. Detached from the Mare Island Navy Yard and ordered to the *Iowa.*

Lovering, P. A., Surgeon. Ordered to the Mare Island Navy Yard.

Page, J. E., Passed Assistant Surgeon. Ordered to the *Pensacola.*

Siegfried, C. A., Medical Inspector. Detached from the torpedo station at Newport, Rhode Island, and ordered to continue in charge of the Naval Hospital, Coasters Harbor Island, Rhode Island.

Simons, M. H., Surgeon. Detached from the *Iowa* and ordered to Washington, D. C., for examination for promotion, and then home to await orders.

Steele, J. M., Surgeon. Ordered to duty at the torpedo station at Newport, Rhode Island.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending October 12, 1899:*

Murray, R. D., Surgeon. To proceed to Key West, Florida, for special temporary duty. To assume command of the service at Key West, Florida, in accordance with orders of May 15, 1899.

Carrington, P. M., Surgeon. To proceed to New York as inspector of unserviceable property.

Perry, T. B., Passed Assistant Surgeon. To report to the chairman of the board of examiners, New York, for examination to determine fitness for promotion.

Woodward, R. M., Passed Assistant Surgeon. To report to the chairman of the board of examiners, New York, for examination to determine fitness for promotion.

Vaughan, G. T., Passed Assistant Surgeon. To report to the chairman of the board of examiners, New York, for examination to determine fitness for promotion.

Wertenbaker, C. P., Passed Assistant Surgeon. To proceed to Bristol, Tennessee, for special temporary duty.

Decker, C. E., Assistant Surgeon. To proceed to San Diego, California, and assume command of the service, relieving Assistant Surgeon L. E. Cofer.

Greene, J. B., Assistant Surgeon. To report to the chairman of the board of examiners, New York, for examination to determine fitness for promotion.

Casualty.

Assistant Surgeon W. R. McAdam died of yellow fever at Key West, Florida, October 12, 1899.

Society Meetings for the Coming Week:

Monday, *October 23d:* Medical Society of the County of New York (annual); Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *October 24th:* Tri-State Medical Society of Alabama, Georgia, and Tennessee (first day—Chattanooga); New York Dermatological Society (private); Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Medical Society of the County of Putnam, New York (semiannual); Richmond, Virginia, Academy of Medicine and Surgery.

Wednesday, *October 25th:* Tri-State Medical Society of Alabama, Georgia, and Tennessee (second day); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Auburn, New York, City Medical Association; Berkshire, Massachusetts, District Medical Society (Pittsfield); Middlesex, Massachusetts, North District Medical Society (Lowell); Gloucester, New Jersey, County Medical Society (quarterly); Philadelphia County Medical Society.

Thursday, *October 26th:* Tri-State Medical Society of Alabama, Georgia, and Tennessee (third day); New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Massachusetts Medical Benevolent Society (annual); Pathological Society of Philadelphia.

Friday, *October 27th:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *October 28th:* New York Medical and Surgical Society (private).

Births, Marriages, and Deaths.

Born.

Turman.—In Lassiter, Virginia, on Wednesday, October 11th, to Dr. and Mrs. Alexander Emmett Turman, a daughter.

Married.

Bostwick—Nelson.—In Ansonia, Connecticut, on Wednesday, October 11th, Dr. Benjamin Earle Bostwick, of New Milford, Connecticut, and Miss Clara Hubbell Nelson.

Clark—Greene.—In Shuqualak, Mississippi, on Tuesday, October 10th, Dr. N. G. Clark, of Pratt City, Alabama, and Miss Minnie L. Greene.

De Mund—Bellinger.—In New York, on Wednesday, October 11th, Mr. Frederick W. De Mund, son of Dr. John T. De Mund, and Miss Sadie Bellinger.

Kline—Hall.—In New York, on Thursday, October 12th, Dr. Charles Demarest Kline, of Nyack, New York, and Miss Charita Irma Hall.

Lavinder — Fair. — In Ponce, Puerto Rico, on Thursday, September 28th, Dr. Claude Henry Lavinder, of Lynchburg, Virginia, and Miss Frances Moore Fair.

Moore—Stanton.—In New York, on Wednesday, October 11th, Dr. John William Moore, of Atlantic Mine, Michigan, and Miss Helen Louise Stanton.

Mortimer—Brown.—In New York, on Wednesday, October 11th, Dr. Samuel E. Mortimer and Miss Mary Wells Brown.

Peck—Anderson.—In Chester, Pennsylvania, on Wednesday, October 11th, Dr. George A. Peck, of New Rochelle, New York, and Miss Letitia Anderson.

Ramsay — Selden. — In Hampton, Virginia, on Wednesday, October 11th, Mr. Harvey Reynolds Ramsay and Miss Isabella Randolph Selden, daughter of Dr. Charles Selden.

Robbins — Blanchard.—In Sherborn, Massachusetts, on Tuesday, October 10th, Mr. Warren C. B. Robbins and Miss Florence Blanchard, daughter of Dr. A. H. Blanchard.

Taylor—Ransom.—In Buffalo, on Wednesday, October 11th, Dr. Edwin Stanton Taylor, of Philadelphia, and Miss Martha Ransom.

Died.

Collier.—In Rochester, New York, on Wednesday, October 11th, Laura M. Collier, wife of Dr. M. S. Collier.

McAdam.—In Key West, Florida, on Thursday, October 12th, Dr. W. R. McAdam, United States Marine-Hospital Service.

Letters to the Editor.

THE TESCHNER EXERCISE TREATMENT.

134 East Sixty-first Street,
New York, *October 7, 1899.*

To the Editor of the New York Medical Journal:

Sir: In to-day's issue of the *New York Medical Journal* there appeared a paper by Dr. Louise Erich containing a report of cases of scoliosis and flat foot, treated by the "Teschner method."

Permit me, through the columns of your journal, to take exception to Dr. Erich's modification of my treatment, and especially to the reason assigned for this modification. I have held, and still do hold, that I obtain the best and most rapid result with the heaviest weights that the patient can exercise with, with rhythm and grace.

My patients are not required to "lift more" at each succeeding treatment, as stated by Dr. Erich, but they are expected to improve in their work, as will be seen by reference to my words, which she quotes, viz.:

"As the amount of work performed depends upon the last previous record of that patient, *that record must be improved upon, unless there is a good and sufficient reason to the contrary.*"

Dr. Erich has had an opportunity of seeing my patients treated, but she has not had the advantage of that personal training which I consider it necessary that any one should have who would undertake this work, execute it understandingly, and expect good and rapid results.

It is the lack of training and the timidity resulting therefrom which lead the doctor to the idea that she might overwork the patient's heart if she did not modify my method.

In the closing remarks of my paper, quoted by Dr. Erich, I specifically call attention to "*the beneficial effect upon the heart's action*, as shown by the diminished frequency of the pulse and the increase of pulse pressure after each treatment, as shown by Basch's sphygmomanometer." I have treated over a hundred cases of scoliosis (privately) and among the patients there were some with weak hearts, lesions implicating one or more valves, hypertrophy, dilatation, and even fatty degeneration, and in no case was the slightest injury inflicted; on the contrary, they all improved markedly, as can be attested by the physicians who referred them to me and by the patients themselves, who were enabled to undergo great exertion and exhibit endurance without the slightest discomfort.

As to the doctor's discovery that flat feet are benefited, I must again refer to her quotation. In next to the last paragraph of my closing remarks it is distinctly so stated.

The greatest benefit comes to them from the heaviest work, and not from the light foot exercises—the heavier the work, the more rapid the change in conformation—and the pain should disappear in one or two weeks, not only after the lapse of nine months, and then partially so.

I must, however, express my gratification at the showing made in the report of cases, as it demonstrates that, even if the results were slow and obtained by one who was not properly trained to the work, inferior handling by this method gives infinitely better results than by any other known treatment.

Taking it all in all, Dr. Erich is certainly to be congratulated upon her results.

JACOB TESCHNER, M. D.

PROFESSOR KOSSMANN ON CERTAIN TECHNICAL TERMS.

[Translation.]

BERLIN, *September 15, 1899.*

To the Editor of the New York Medical Journal:

SIR: In a letter from my highly esteemed colleague Dr. A. Rose, published in your journal, vol. lxx, No. 6, page 212, I find my name mentioned in a connection that leads me to think that Dr. Rose has misunderstood a remark of mine, perhaps made with undue brevity in a letter, concerning "policlinic" and "astyclinic." My view is as follows: In classical Greek—probably also in modern Greek—πόλις means a town as a municipality, as a political organism; ἄστυ, on the other hand, conveys a geographical idea, that of a collection of houses. Κλινικός is an adjective derived from κλίνη, a bed. An "astyclinic," therefore, is an institution for the treatment (outside of a hospital) of the sick of a town who are confined to bed; a "policlinic," however, can be only an institution established by the municipal government for the care of those who are sick abed. It is alike improper to call an institution for treating the sick who are *not* confined to bed either a "policlinic" or an "astyclinic."

Whether it is grammatically more correct to write "policlinic," "polioclinic," or "poleoclinic" is another question. The answer is as follows: "Poleoclinic" is admissible according to modern Greek usage, but not according to classical usage. Both "policlinic" and "polioclinic," however, are correct forms according to classical usage. Yet, the ancients, although partial to the connective -io- in analogous word formations, avoided it for the most part in compounds of πόλις, in order not to give rise to confusion by reason of the similarity in sound to the word πολιός, gray (πολιοκρόταφος, having gray temples; πολίαρχος, the heart of a town).

But allow me, Mr. Editor, not only to answer these little side questions, but also to say a few words on the main question. Since, then, I am not a beer-drinking and pipe-smoking pedant, as Dr. Ellis seems to imagine every educated German to be, but a man who has pursued the objects of his research in many countries, and believes himself almost as capable as a smart American [*als ein smarter Amerikaner*] of distinguishing the important from the unimportant, I ask: Is an international technical language important or superfluous for us physicians? My readers will probably answer unanimously that for the learned of all nations uniform technical expressions are in a high degree important for the progress of our science.

I ask further: From what languages are these technical expressions to be taken appropriately? Answer: Since for two thousand years Greek and Latin medical terms have been in international use, and since to exchange them for terms taken from any other living tongue would provoke the self-conceit of other nations and meet with insurmountable opposition, the only proper course to follow is to employ technical expressions, both those now existing and those yet to be formed, taken from the so-called *classical* languages.

Finally, I ask: Is it proper to create or accept technical terms that are linguistically *incorrect?* Answer: No, it is not proper. Incorrect expressions, so long as they have not come into general use, are unintelligible without some added explanation; but their coming into general use will do more—it will hinder the adoption of correct expressions—because our professional brethren who are learned in languages can not be expected knowingly to run counter to the rules of a language intrusted to them.

From this it follows, then, that a person who knows nothing of Latin or Greek should seek the advice of some one who is learned in those languages when he attempts to create a new medical expression. If a man who was unable to play a scale correctly were to execute one of his own compositions in a circle of musically educated persons, it would be taken as the height of *naiveté.* How, then, can a man pass around such words as "appendinflammatus," and the like, in a circle of men who are accustomed to regale themselves with Horace and Tacitus, and expect them to adopt them?

R. KOSSMANN, M. D.

⁂ It seems to us that our distinguished correspondent takes "appendinflammatus" too seriously. Our own notion is that Dr. Ellis intended it as a *reductio ad absurdum.*

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL.B.

XLI.

CRIMINAL LIABILITY.

(*Continued from page 565.*)

Constitutional and Legal Safeguards in Criminal Cases.—When one accused of a criminal offense enters a court of justice sitting for the purpose of determining his innocence or guilt of the crime charged, he is protected by constitutional guarantees and presumptions of law, wisely designed to guard the innocent from the untoward and sometimes perilous chain of circumstances which often falsely bespeak guilt. In all criminal cases the place of trial must, by virtue of the United States Constitution, be in the State and district where the crime has been committed. This provision prevents the possibility of taking the prisoner to a distant State, where it would probably be impossible for him to secure evidence to disprove or combat that produced by the prosecution. The manner of trial, according to the guarantee of the United States Constitution, shall be, in federal cases, by jury, and by a similar guarantee contained in the constitutions of the several States the trial of prisoners for crimes against the respective States shall also be by jury. These guarantees, together with the wise laws which generally prevail for the purpose of securing unprejudiced juries, insure the prisoner a reasonably fair trial.

The first, and probably one of the most important, intendments of the law in the prisoner's favor is the presumption of his innocence. This presumption can only be overcome by the production of evidence on the trial so strong as to remove from the mind of the jury every reasonable doubt as to his guilt. The rule has been examined in civil matters, and it has been shown that the jury, after weighing the evidence, are to give their verdict in accordance with the preponderance of evidence; but in criminal matters, it must be observed, the rule is different. Here the jury can not find the accused guilty unless the evidence indicating guilt preponderates so greatly over that calculated to show innocence as to remove from the mind of the jury every reasonable doubt of the defendant's guilt.

In the manner of producing the evidence against the prisoner the solicitude of our Constitution and laws for justice to the accused is again shown. In civil matters, if a witness is far distant from the place of trial, or if he is sick and unable to appear in court, his deposition may be taken and produced upon the trial with a like effect as his personal statement made before the jury, or perhaps even greater; but not so in criminal matters. Here the Constitution says he shall be confronted by the witnesses against him—that is, he shall meet them face to face—and they shall testify in open court and in his presence. The prisoner is insured the right of compulsory process to obtain witnesses in his favor, and is spared the necessity of being himself required to testify. Moreover, he is guaranteed the right of being informed of the nature and cause of the accusation against him, and is assured the assistance of counsel for his defense. And, above all, when once acquitted of the crime charged, his innocence can never again be judicially questioned. But, notwithstanding all these legal barriers thrown about the accused, it is apprehended that many innocent men have suffered because of inadvertent circumstances, or perhaps through indiscretions. The evidence of circumstances is, as all know, often most convincing, and yet sometimes leads to absolutely false conclusions.

Rules Governing Admission of Evidence in Abortion Cases.—In order to understand more particularly what character of evidence is admissible to prove the commission of the crime in consideration and the amount and weight of such evidence necessary to fix the guilt, an examination will be made of a few cases in which the evidence has been passed upon and the prisoner's guilt or innocence determined by the jury. But first a brief reference will be had to the general rules of law regulating the admission of evidence.

In the trial of a case before a jury, whenever either party offers evidence, the admissibility of that evidence is a question of law to be decided by the judge. If the judge decides that the evidence is proper and admissible, it then becomes the province of the jury to weigh and determine the effect of that evidence. The judge, in passing upon the admissibility of the evidence, must determine whether it is relevant to the question at issue. In determining this, recourse is had, if in a civil matter, to the pleadings, or preliminary written statements of the facts or conditions claimed by the respective parties; if in a criminal matter, to the indictment or information, and herein will be found many technical discussions, which can be neither interestingly nor profitably examined.

The general rule, that the best evidence of which the case in its nature is susceptible is required, has been heretofore referred to. This rule simply means that when a certain fact can be shown by authentic evidence a secondary or inferior grade of evidence will not be admitted to prove the same; if, for instance, the contents of a certain letter or writing are desired to be proved, then the letter or original writing itself is the only admissible evidence; if, however, it can be shown that the letter is lost or destroyed, then secondary evidence of its contents may be admitted.

Similar in principle to this rule is the one rejecting as incompetent all hearsay evidence. The rule regarding hearsay evidence is that the witness may testify as to facts lying within his own knowledge, but that he can not testify from information given by others. There are, however, a number of exceptions to this rule which figure very importantly in the trials of the class of cases we are about to examine. One of these exceptions, or apparent exceptions, is that the expressions of another showing his bodily or mental feelings at the time they were made may be given in evidence by a witness who was present, where the physical or mental condition of such party at that time is relevant to the question in issue. Another and important exception, and one which it is difficult to adequately and clearly express in few words, is the rule that the circumstances and statements forming part of the *res gestæ* are admissible in evidence; by the term *res gestæ* is meant all of those circumstances and things which are related to or throw light upon the real question in issue. Mr. Greenleaf, in his philosophical work upon *Evidence*, in describing this rule, said: "The affairs of men consist of a complication of circumstances so intimately interwoven as to be hardly separable from each other. Each owes its birth to some preceding circumstance, and in its turn becomes the prolific parent of others; and each, during its existence, has its inseparable attributes and its kindred facts, materially affecting its character, and essential to be known, in order to a right understanding of its nature. These surrounding circumstances, constituting part of the *res gestæ*, may always be shown to the jury, along with the principal fact, and their admissibility is determined by the judge, according to the degree of their relation to that fact, and in the exercise of his sound discretion; it being extremely difficult, if not impossible, to bring this class of cases within the limits of a more particular description." * To illustrate this rule, if one running from a room in which a murder had just been committed were heard to use certain expressions or make certain statements, those expressions or statements would be competent as part of the *res gestæ*, they tending to throw light upon the main question in issue. As a general rule, the circumstances or declarations offered in proof as part of the *res gestæ* must be contemporaneous with the main fact under consideration and so connected with it as to illustrate its character. It has been held, however, that where the witness reached the murdered person twenty seconds after the injury and heard him say, "I'm stabbed; I'm gone; Dan Hackett stabbed me," this evidence could be admitted as part of the *res gestæ*. The admissibility of evidence under this rule must depend largely upon the circumstances of the particular case, as will be more particularly and practically seen in observing its application in the cases hereafter examined.

More properly the foregoing rules admitting evidence of statements expressive of bodily and mental feelings, and statements which are part of the *res gestæ*, are not, in fact, exceptions, but are apparently exceptions to the rule debarring hearsay evidence, for the witness in neither of these cases attempts to testify as to the truth of the subject matter of the declaration, but simply as to statement or expression which he heard.

There are, however, several real exceptions to the rule. One of these exceptions, which is of material importance in this class of cases, is that dying declarations will be received as evidence of the fact which they recite. This rule is not applicable in civil matters, but only in cases of homicide, and such declarations are then admissible only for the purpose of showing the circumstances of the death. Such declarations must, however, be made while *in extremis*, the party realizing his condition and entertaining no hope of recovery. The theory upon which this class of statements is received as evidence of the fact recited is that a situation so solemn and so awful is considered by the law as creating an obligation equal to that which is imposed by a positive oath in a court of justice.†

Another exception which sometimes has an important bearing in this class of cases is the rule that confessions of the prisoner, or, in civil matters, admissions against interest, may be admitted in evidence to prove the subject matter of their contents. In view of this exception and of the great zeal shown by certain ministerial officers whose duty it is to apprehend and retain custody of the accused, to procure condemning evidence, often irrespective of the merits of the case, one who is so unfortunate as to have fallen under suspicion, perhaps by force of untoward circumstances, for which he is not accountable, should have this rule in mind, and carefully guard his utterances lest some intentionally innocent remark, made under the excitement of the occasion, be repeated in court, possibly with a slight alteration of wording or a change of expression, to convey an impression of guilt not intended and not justified by the facts.

These are the principal rules of evidence adverted to in determining the admissibility of evidence in this class of cases. An examination will now be made of the cases themselves for the purpose of ascertaining the weight and effect of the evidence when admitted before the jury.

(*To be continued.*)

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* 1 Greenleaf on Evidence, § 108.

† *Ibid.*, § 156.

Pith of Current Literature.

Exalgine Poisoning.—Poisoning by exalgine is rare. A case was recorded by Dr. Lemitte in the *British Medical Journal* for June 11, 1898, and quoted in the *New York Medical Journal* for July 2, 1898. In the *Lancet* for September 30th this year, Mr. J. Bell records a case of recovery in the Government Civil Hospital, Hongkong, after the enormous dose of a hundred and fifty grains taken by a Chinese male adult. The symptoms resembled those of opium poisoning. The patient was unconscious, intensely livid, with pin-point pupils, and full, bounding pulse. The temperature was 100.8° F. He had vomited once. The urine contained one fifteenth albumin. Treatment consisted of thirty grains of salicylic acid by the nasal tube and one fiftieth of a grain of atropine hypodermically. Two hours later, one hundredth of a grain of atropine and small quantities of milk and coffee were given. One hundredth of a grain of atropine during the night. Next morning he was out of danger, but remained weak for some days.

Intoxication from Toxalbumins, etc.—Dr. Mary McDowell Shick (*Pennsylvania Medical Journal*, September), in a paper on this subject, formulates the following conclusions: 1. Bacteria themselves are not always essential to the production of diseases resembling those ordinarily produced by micro-organisms. 2. All soluble poisons produce similar lesions. 3. It is possible, under natural conditions, for an individual to become poisoned with the toxines without the direct agency of the bacteria. Generally, however, this does not occur. In drinking water, the poison is well diluted; in foods, we do not, as a rule, eat those in which putrefaction has progressed sufficiently for the toxine to have been developed. 4. The trend of present experiments would seem to indicate that a special antitoxine for each toxine is not necessary; but, rather, some substance which in all cases will act as a stimulant to the lymphoid tissues of the organism. 5. Considering the similar symptoms and lesions of all intoxications, one general line of treatment may be followed, being modified to suit individual cases.

Encouraging Results of Koch's Investigations of Malaria in Italy.—According to the *Journal of the American Medical Association* for October 7th, Professor Koch, who sailed for the Dutch East Indies in August to continue his research on malarial infection, announces as the results of his studies in the Tuscan

Maremma that he is convinced that man is the only host of the malarial parasite during the months from summer to summer. The alternating host, the mosquito, is found all the year around, but only during the summer months does the parasite find in its body the warmth necessary for its development. When summer arrives the mosquito derives the parasite from one person and transfers it to others, thus transmitting infection. The connecting link in the infection is therefore the recurrences during the fall and winter, in the persons infected the summer before. If these recurrences could be jugulated—and this is possible with quinine—the infection could be eradicated before the arrival of summer; the mosquitoes would then find no parasites and malarial infection would gradually die out. When he first arrived in Tuscany, in April, all the cases he could find were old, dating from 1898. Suddenly, on the arrival of warm weather, large numbers of fresh cases were noted—a regular epidemic. He concludes that it is possible with the aid of quinine to break down the bridge that connects season with season, and in this way exterminate malaria.

Uric Acid as a Cause of Asthma.—L. H. Watson (*Southern Medical Record,* February; *Laryngoscope,* September) favors the theory advocated by Haig and others that asthma represents the effects of uric acid on the circulation in the thorax, and that it is paroxysmal for the same reason that epilepsy and migraine are so, in accordance with the natural fluctuation of the uric acid and the amount of substance passing through the circulation. He quotes a case cured and another improved by treatment based on this theory.

Epithelioma as a Sequel of Psoriasis and the Probability of its Arsenical Origin.—Dr. M. B. Hartzell (*Boston Medical and Surgical Journal,* October 5th), in a paper read at the annual meeting of the American Dermatological Association, said that the patient, a woman of thirty-five years, had been affected with psoriasis since the age of fourteen. Upon the outer side of the left heel there was an ulcer two inches in diameter with shallow edges and a deep centre. The palms and soles showed marked keratosis, with cornlike elevations. Upon the elbows and trunk were a few patches of psoriasis, which presented nothing unusual. In the left groin was a bosselated tumor the size of a small orange, firm and elastic except at the summit, where it was soft. The patient had been given arsenic in considerable doses over long periods of time. The patient developed the horny condition of the palms and soles about two years after the psoriasis had made its appearance. Later small superficial ulcers occurred beneath the horny masses and obstinately refused to heal. At this time the tumor in the groin speedily ulcerated, forming a deep, fungating, foul ulcer which discharged abundantly. This was soon followed by a more or less continuous fever, loss of appetite, rapid emaciation, and death in about two months. Histologic examination of an excised section of the border of the ulcer demonstrated beyond doubt its epitheliomatous nature. Ten cases of associated epithelioma and psoriasis had been reported. In all of them the psoriasis was of quite long standing; in all but three there was some form of keratosis; and in all epitheliomatous change took place beneath one or more of the horny excrescences. In all in which mention was made of treatment, eight out of eleven, arsenic had been given in considerable quantity over a long period. It was noteworthy that in fifty per cent. of the cases the lesions were multiple and that one half of the patients were under the age of forty. In conclusion, the writer remarked that the evidence thus far in our possession was of such a character as to permit us to accept as very probable, at least, the arsenical origin of the epithelioma in these cases.

In the discussion that followed, some of the members held that the epitheliomatous change was due to the continued irritation produced by the excessive keratosis and could not be directly traced to the arsenic. Dr. Hartzell, in closing, maintained that the arsenic being the cause of the keratosis was responsible for the epithelioma that it superinduced.

Massage with Quicksilver.—Rindfleisch (*Münchener medicinische Wochenschrift,* August 22d; *Medical News,* October 7th) has devised a plan by which one can massage rheumatic joints without doing them more injury than good. He takes the inflamed hand and sinks it in a deep, wide glass, which is two thirds full of quicksilver. The quicksilver exerts an equal pressure on every portion of the fingers, and this increases very rapidly as the fingers sink farther into it. The hand is sunk slowly into the quicksilver and withdrawn twenty or thirty times at one sitting. After the second sitting he was pleased to observe a marked diminution in the swelling, and in four days the joint was almost normal. The method recommends itself for wider trial.

The Natural Limitation of Syphilis.—Dr. J. D. Thomas (*International Medical Magazine,* September) says that syphilis, like all other eruptive diseases, has a clinical limit; and, again, like the other eruptive diseases, its sequelæ may be unlimited. Syphilis loses its contagious character in less than four years; its sequelæ *may* last as long as the patient lives. In cases thoroughly treated it may lose its contagious character in one year; this clinical fact we know from occasional observation, wherein some of our patients, against advice, marry at this early period, but do not infect their wives, and hence have healthy children. The far limit of the contagion we know from observation; but its near limit in individual cases we are unable to settle. If any of the lower animals were susceptible to the disease we could, by experimental inoculation, tell each patient when the disease had lost its contagious character, and thus be enabled to state how soon the marriage relation might be entered upon.

And he adds: "When a woman, newly married, comes to me with syphilis, after marrying a man who had had syphilis three or four years before the wedding, I make bold to tell her that she did not acquire the disease from her husband, but from some fresher syphilitic."

In this connection the statement of Jonathan Hutchinson, quoted in our issue for October 7th, that "hereditary syphilis would disappear if the rule was generally adopted that two years' interval after infection should elapse before marriage," will be recalled.

Ergot in Chronic Malaria.—Dr. A. Jacobi, in a paper on this subject in the *St. Louis Medical Era* for October, arrives at the following conclusions:

"1. There are cases of chronic intermittent fevers with large tumefaction of the spleen which, after having resisted the action of quinine, arsenic, methylene blue, eucalyptus and piperin, are benefited by ergot. 2. When enlargement of the spleen is not old and not firmly established, the contracting effect of ergot is noticed within a reasonable time. 3. The attacks will disappear before that diminution in the size of the spleen is very marked. 4. Though temperatures after the employment of ergot remain irregular and are now and then somewhat elevated, chills, as a rule, are not noticed with this elevation. 5. Plasmodia do not seem to disappear from the blood so rapidly as they do after quinine when the latter is effective. But even while some are still present, the attacks being more or less under control, the patient will feel better. 6. Complicating local pain requires additional treatment with ice, or cold douches, or heat. Chronic hyperplasia demands iodide of potassium or iodide of iron. Digestive disorders may indicate, as they often do when quinine is expected to act before the employment of ergot, an emetic, or a purgative, or stomachics. 7. An experience extending over forty years, in which I have used ergot in many instances, justifies me in asserting at least this much: that there are many cases of chronic malaria, apparently intractable, that will get well with ergot. 8. There are cases occasionally in which the return of elevations of temperature after the successful use of ergot makes the combination of ergot and quinine, or ergot and arsenic, advisable, though quinine and arsenic were not successful previously. 9. Ergot, like quinine, probably by its sudden contracting effect on the spleen, and the forcing of large quantities of plasmodia-laden blood into the circulation, in chronic malaria when hydræmia and spleen tumor are excessive, is capable of bringing on the very first attack of chills and fever. 10. Recent cases of malaria have got better or were improved under the extensive use of ergot, but many resisted a long time. That is why acute cases should rather be treated with quinine."

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of June 7, 1899.

The Vice-president, Dr. Charles E. Quimby, in the Chair.

Report of a Case of Extensive Thoracoplasty.—Dr. L. W. Hotchkiss made this report. The patient was a man, twenty-four years old, a member of the Thirteenth United States Infantry, who, at the battle of San Juan in July, 1898, had been struck by a Mauser bullet, which, after perforating the left arm, had entered the chest and emerged behind the right shoulder. The man had been exposed for several days after the battle, and had then been brought down to the hospital at Siboney, where it was found that an empyema had developed. This had been incised and drained, a small rubber tube being inserted for that purpose.

Subsequently, the patient had been brought to New York on the transport *Seneca* and was admitted to Bellevue Hospital late in July. At that time his general condition was very bad; he was very much run down, had numerous bedsores, and a badly drained empyema of the left chest, the lung on that side having collapsed. As soon as possible, Dr. Hotchkiss had enlarged the original opening in the chest, excising one or two pieces of rib and putting in some large drainage tubes. These had drained fairly well, and the man had gained somewhat in health and strength. Later on, the collapsed lung having failed to expand, a more extensive operation had been decided on, in order to obliterate the large pus cavity on that side of the chest, which contained between one and two quarts of fluid, and could contract no further. The procedure which was followed was along the line of the Schede-Estlander operation. The incision extended from the second rib in front round to about a corresponding point posteriorly; this large flap had then been raised, and a portion of the third, fourth, and fifth ribs excised, together with the costal pleura. The man's condition had been such as to demand very rapid work and transfusion with large quantities of normal salt solution. The flap, which consisted of skin and muscle, had been allowed to sink in against the collapsed lung. By this operation the cavity had been so much reduced in size that it only contained a very few ounces of fluid. The patient had rapidly gained in flesh and strength, and had soon been able to be up and about the ward. At the time of his discharge from Bellevue a sinus remained, which led into a cavity containing about six or eight ounces of fluid, and during the past winter he had entered the Hood-Wright Hospital for the purpose of having this smaller cavity obliterated, as the sinus had once become occluded, and he had suffered from pain and fever. This second operation was done in March, 1899. A curved incision was made, commencing just below the left nipple and extending backward to and along the posterior edge of the scapula, the muscles being partially divided. The scapula was retracted from the side of the chest in order to gain access to that part of the chest cavity. Upon raising the scapula, the ribs, which had been partially removed at the previous operation, were more widely excised still farther back, and the tissues covering them were allowed to sink in. Only the upper three ribs—the third, fourth, and fifth—were excised, as the lower part of the chest cavity had already been obliterated by the previous operation. There was some infection of the wound following this operation, and a severe secondary hæmorrhage from one of the intercostal arteries.

At the time of the report a small sinus still remained, which discharged a little pus. There was considerable resonance over the upper portion of the left chest, showing that the upper part of the lung on that side was expanded. The lower portion of the lung was collapsed, retracted, and fastened down by adhesions.

The function of the left arm, Dr. Hotchkiss said, had at first been much impaired as the result of section of the muscles which pass over the tip of the scapula. Since the operation, however, the function of the arm had gradually improved, and the patient had a good range of motion at the shoulder joint. The patient's general health was good. Dr. Hotchkiss said he hoped that the small cavity which still remained would heal by granulation without further operative intervention.

Dr. John F. Erdmann asked the opinion of the chairman as to the value of the pneumatic cabinet in a case of this kind, for the purpose of expanding the collapsed lung.

The chairman, Dr. Quimby, replied it would be easy enough to expand the lung, but it would not remain expanded, as there was nothing to hold it there. The chest wall being unable to do so it would drop right back.

A Case of Resection of the Sigmoid Flexure for Carcinoma.—Dr. HOTCHKISS also reported this case. The patient was a man, fifty-two years old, who had suffered from an annular carcinoma of the sigmoid flexure, which had given rise to symptoms pointing to some internal growth for some months before the patient came under observation. Dr. Hotchkiss said that in the other cases he had seen there had usually been a history of acute obstruction, and, in one or two instances which had come under his observation, this had been practically the first symptom of the trouble.

The patient was admitted to the Hood-Wright Hospital on March 9, 1899. There was no venereal history. He had always indulged moderately in alcoholics. About two years ago he had been seized with a sudden pain in the abdomen; as he was constipated, he took a laxative, and when his pain and constipation had been relieved he had had some bleeding from the bowels, lasting for eight or ten days and accompanied by the passage of a number of large clots, resembling liver, as he described them. There had been a continuous loss of flesh and strength, together with a pain on the right side, with paroxysms of severe pain every three or four weeks, followed by hæmorrhage from the bowels. He had visited various hospitals, where his trouble had probably been regarded as due to hæmorrhoids.

An exploratory laparotomy was done at the Hood-Wright Hospital in March last. The abdomen was opened in the left semilunar line, revealing a growth in the sigmoid flexure. One small mesenteric gland immediately below the growth was found to be enlarged. There were no symptoms of obstruction, and no marked distention, the case being an ideal one for an immediate resection of the gut and an end-to-end anastomosis, which was accordingly done. Considerable difficulty had been experienced in adjusting the Murphy button, the only one available being the largest of the three original buttons, which was usually too small for the large intestine. This had made the anastomosis rather an awkward one, and obstructive symptoms were feared. For some days after the operation he had had pain and distention, which were relieved by the rectal tube and magnesia.

When the patient was discharged, on April 20th, he had not yet passed the button, and it had not been discharged until the forty-third day. Since then the patient had been free from all symptoms, and had gained some flesh and strength. He had not suffered from constipation since.

The growth removed had been submitted to Dr. E. K. Dunham for microscopical examination. Dr. Hotchkiss said he had not yet received a report from the pathologist, but the growth was apparently an annular carcinoma. It projected into the lumen of the gut, diminishing its calibre so that it would only admit the little finger. Its gross appearance was typical of carcinoma.

Dr. W. EVELYN PORTER said that he had seen several cases of malignant disease of the large intestine in which both the immediate and ultimate results of operation were satisfactory. In one such case, where he had assisted Dr. Outerbridge, the same sized Murphy button which Dr. Hotchkiss had referred to was inserted, with the same gratifying result. In that instance the button was discharged rather earlier than in Dr. Hotchkiss's case, but this fact had given rise to practically no unfortunate symptoms. The disease in that case had been absolutely proved to be carcinoma. The last time he heard from the patient, which was about a year ago, she had been enjoying excellent health.

(To be concluded.)

Book Notices.

The Ready Reference Handbook of Diseases of the Skin. By GEORGE THOMAS JACKSON, M. D. (Col.), Professor of Dermatology in the Woman's Medical College of the New York Infirmary and in the Medical Department of the University of Vermont, etc. With Seventy-five Illustrations. Third Edition, revised and enlarged. New York and Philadelphia: Lea Brothers, 1899. Pp. viii–17 to 647. [Price, $2.50.]

THE third edition of Dr. Jackson's book following so soon upon the second, which appeared in June, 1896, testifies greatly to its worth and the popularity it enjoys. And this is not surprising, as it is one of the very best of the short treatises on the subject which have been published. Though all the subjects are treated in a concise manner, yet that does not mean that any important points are omitted. On the contrary, the necessary features for diagnosis are sharply drawn and designated.

The treatment is given as fully as it is possible, and the subject is enlarged by the addition of an extensive formulary. This third edition has been brought up to date by a thorough revision, and new sections have been added, dealing with dermatitis from the Röntgen rays, blastomycetic dermatitis, and pityriasis alba atrophicans, among others.

The type, paper, and general get-up of the book are in every way excellent, and it is a pleasure to recommend it to those desirous of having at hand an accurate and concise presentation of the subject of dermatology.

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment and Drugs. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by JUDSON DALAND, M. D. (Univ. of Penna.), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc. Volume II. Ninth Series, 1899. Philadelphia: J. B. Lippincott Company, 1899. Pp. ix–310.

THE volume opens with a description of Holländer's apparatus and method for using superheated air as a hæmostatic. A number of instances are cited to prove the value of the method as an advance over the actual cautery, and cases of lupus in which cicatrization was brought about are illustrated by reproductions from photographs. The report of Grancher's lectures on the treatment of tuberculous disease seems to be concluded.

Among other foreign clinics reported are those of Jaccoud, Fournier, Grawitz, and Lassar, and the names of Hare, Keen, and Gibney appear among those of the American contributors.

BOOKS, ETC., RECEIVED.

Surgical Anatomy. A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By John B. Deaver, M. D., Surgeon-in-Chief to the German Hospital, Philadelphia. In Three Volumes. Illustrated by about Four Hundred Plates, nearly all Drawn for this Work from Original Dissections. Volume I. Upper Extremity; Back of Neck; Shoulder; Trunk; Cranium; Scalp; Face. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xiv–17 to 632.

A Text-book of Physiology. By Winfield S. Hall, Ph. D. (Leipzig), M. D. (Leipzig), Professor of Physiology, Northwestern University Medical School, Chicago, etc. Illustrated with Three Hundred and Forty-three Engravings and Six Colored Plates. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. 671.

Introduction to the Outlines of the Principles of Differential Diagnosis, with Clinical Memoranda. By Frederick J. Smith, M. A., M. D. Oxon., F. R. C. P. Lond., Physician and Senior Pathologist to the London Hospital. New York: The Macmillan Company, 1899. Pp. ix–353. [Price, $2.]

Diseases of Children. A Manual for Students and Practitioners. By George M. Tuttle, M. D., Attending Physician to St. Luke's Hospital, etc. Series Edited by Bern B. Gallaudet, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York, etc. Illustrated with Five Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. 6 to 17 to 386.

Ringworm and Some Other Scalp Affections: their Cause and Cure. By Haydn Brown, L. R. C. P. Edin., Fellow of the Royal Institute of Public Health, etc. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. 175. [Price, $1.75.]

A Laboratory Manual of Physiological Chemistry. By Elbert W. Rockwood, B. S., M. D., Professor of Chemistry and Toxicology in the University of Iowa. With One Colored Plate and Three Plates of Microscopic Preparations. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1899. Pp. vii–204. [Price, $1.]

Burdett's Hospitals and Charities. 1899. Being the Year Book of Philanthropy and the Hospital Annual. Containing a Review of the Position and Requirements, and Chapters on the Management, Revenue, and Cost of the Charities. An Exhaustive Record of Hospital Work for the Year. It will also be found to be the Most Useful and Reliable Guide to the British, American, and Colonial Hospitals and Asylums, Medical Schools and Colleges, Religious and Benevolent Institutions, Dispensaries, Nursing and Convalescent Institutions. By Sir Henry Burdett, K. C. B. London: The Scientific Press (Limited). New York: Charles C. Scribner's Sons. Pp. 1103.

Nervenleiden und Erziehung. Von Prof. H. Oppenheim, Berlin. Vortrag, gehalten im physiologischen Verein zu Berlin. Berlin: S. Karger, 1899. Pp. 56.

The Schott Methods of the Treatment of Chronic Diseases of the Heart. With an Account of the Nauheim Baths, and of the Therapeutic Exercises. By W. Bezly Thorne, M. D., M. R. C. P. Third Edition. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. 11 to 132. [Price, $1.75.]

Hydrochloric Acid. A Simple Method of Administering. By Charles D. Aaron, M. D. [Reprinted from the *Journal of the American Medical Association.*]

The Diagnostic Value of Abdominal Palpation in Diseases of the Intestines. By Charles D. Aaron, M. D., of Detroit. [Reprinted from *Mathews's Quarterly Journal.*]

Carcinoma of the Duodenum. By Charles D. Aaron, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

Restoration of the Conjunctival Cul-de-sac in a Case of Total Symblepharon, by Means of Thiersch Skin Grafts. By Charles H. May, M. D. [Reprinted from the *Archives of Ophthalmology.*]

A Contribution to the Study of Meteorologic States Ætiologically Related to Influenza Epidemics. By John Zahorsky, M. D., of St. Louis. [Reprinted from the *Medical Review.*]

Umbilical Hæmorrhage, with a Report of Two Cases. By H. Brooker Mills, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal.*]

The Disease of Convulsive Tic (Gilles de la Tourette's Disease). With Special Reference to a Hypothesis as to Ætiology. By Bernard Oettinger, M. D., of Denver. [Reprinted from the *American Journal of the Medical Sciences.*]

Acute Gastro-intestinal Affections in Children. By George M. Wells, M. D., of Portland, Oregon. [Reprinted from the *Medical Sentinel.*]

The Failure of Antitoxine in the Treatment of Diphtheria. By J. Edward Herman, M. D., of Brooklyn. [Reprinted from the *Medical Record.*]

A Study in Perspiration. Original Research in One Hundred and Thirteen Cases. By Julius H. Hoelscher, M. D., of Chicago. [Reprinted from the *Journal of the American Medical Association.*]

Circumstances under which Chloroform is Preferable to Ether as an Anæsthetic. By George W. Gay, M. D., of Boston. [Reprinted from the *Boston Medical and Surgical Journal.*]

Epistaxis spontanées (à répétition). Par Marcel Natier. [Extrait de *La Parole.*]

Miscellany.

The Features of the Fruitful Scientific Mind.—Professor Sir Michael Foster (*Lancet*, September 16th), in his presidential address to the British Association for the Advancement of Science, said:

"What are the qualities, the features of that scientific mind which has wrought, and is working, such great changes in man's relation to Nature? In seeking an answer to this question we have not to inquire into the attributes of genius. Though much of the progress of science seems to take on the form of a series of great steps, each made by some great man, the distinction in science between the great discoverer and the humble worker is one of degree only, not of kind. As I was urging just now, the greatness of many great names in science is often, in large part, the greatness of occasion, not of absolute power. The qualities which guide one man to a small truth silently taking its place among its fellows, as these go to make up progress, are at bottom the same as those by which another man is led to something of which the whole world rings. The features of the fruitful scientific mind are in the main three.

"In the first place, above all other things, his nature must be one which vibrates in unison with that of which he is in search; the seeker after truth must himself be truthful—truthful with the truthfulness of Nature. For the truthfulness of Nature is not wholly the same as that which man sometimes calls truthfulness. It is far more imperious, far more exacting. Man, unscientific man, is often content with 'the nearly' and 'the almost.' Nature never is. It is not her way to call the same two things which differ, though the difference may be measured by less than the thousandth of a milligramme or of a millimetre or by any other like standard of minuteness. And the man who, carrying the ways of the world into the domain of science, thinks that he may treat Nature's differences in any other way than she treats them herself, will find that she resents his conduct; if he in carelessness or in disdain overlooks the minute difference which she holds out to him as a signal to guide him in his search, the projecting tip, as it were, of some buried treasure, he is bound to go astray, and the more strenuously he struggles on the farther will find himself from his true goal.

"In the second place, he must be alert of mind. Nature is ever making signs to us, she is ever whispering to us the beginning of her secrets; the scientific man must be ever on the watch, ready at once to lay hold of Nature's hint, however small, to listen to her whisper, however low.

"In the third place, scientific inquiry, though it be preeminently an intellectual effort, has need of the moral quality of courage—not so much the courage which helps a man to face a sudden difficulty as the courage of steadfast endurance. Almost every inquiry, certainly every prolonged inquiry, sooner or later goes wrong. The path, at first so straight and clear, grows crooked and gets blocked; the hope and enthusiasm, or even the jaunty ease, with which the inquirer set out leave him and he falls into a slough of despond. That is the critical moment calling for courage. Struggling through the slough, he will find on the other side the wicket gate opening up the real path; losing heart, he will turn back and add one more stone to the great cairn of the unaccomplished.

"But, I hear some one say, these qualities are not the peculiar attributes of the man of science: they may be recognized as belonging to almost every one who has commanded or deserved success, whatever may have been his walk of life. That is so. That is exactly what I would desire to insist upon, that the men of science have no peculiar virtues, no special powers. They are ordinary men, their characters are common, even commonplace. Science, as Huxley said, is organized common sense, and men of science are common men, drilled in the ways of common sense. For their life has this feature. Though in themselves they are no stronger, no better than other men, they possess a strength which, as I just now urged, is not their own, but is that of the science whose servants they are. Even in his apprenticeship, the scientific inquirer, while learning what has been done before his time, if he learns it aright so learns it that what is known may serve him not only as a vantage ground whence to push off into the unknown, but also as a compass to guide him in his course. And when fitted for his work he enters on inquiry itself, what a zealous, anxious guide, what a strict and, because strict, helpful schoolmistress does Nature make herself to him! Under her care every inquiry, whether it bring the inquirer to a happy issue or seem to end in naught, trains him for the next effort. She so orders her ways that each act of obedience to her makes the next act easier for him, and step by step she leads him on toward that perfect obedience which is complete mastery. Indeed, when we reflect on the potency of the discipline of scientific inquiry we cease to wonder at the progress of scientific knowledge. The results actually gained seem to fall so far short of what under such guidance might have been expected to have been gathered in that we are fain to conclude that science has called to follow her, for the most part, the poor in intellect and the wayward in spirit. Had she called to her service the many acute minds who have wasted their strength struggling in vain to solve hopeless problems, or who have turned their energies to things other than the increase of knowledge; had she called to her service the many just men who have walked straight without the need of a rod to guide them, how much greater than it has been would have been the progress of science and how many false teachings would the world have been spared! To men of science themselves, when they consider their favored lot, the achievements of the past should serve not as a boast, but as a reproach."

The New York Academy of Medicine.—At the last stated meeting, on Thursday evening, the 19th inst., Dr. C. L. Dana presented a paper on Locomotor Ataxia, which was discussed by Dr. G. M. Hammond, Dr. F. Peterson, Dr. Joseph Collins, and Dr. B. Sachs.

At the next meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 25th inst., Dr. James F. McKernon will read a paper entitled A Contribution to the Technics of Modern Uranoplasty, which is to be discussed by Dr. Hartley, Dr. Knight, Dr. Phillip, Dr. Duel, and others.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 26th inst., a paper entitled The Umbilicus; its Development, Deformities, Diseases, and Dressing, will be read by Dr. A. Ernest Gallant. Cases will be presented and specimens will be exhibited.

The Ninth Annual Meeting of the American Electrotherapeutic Association, which was held in Washington, D. C., on the 19th, 20th, and 21st of September, was, we are informed, very successful in point of attendance and interest. The programme included thirty-six papers and the reports of seven standing committees on scientific questions relating to the medical application of the electrical current. The proceedings of the convention will be published at an early date. The following officers were elected for the tenth year: President, Walter H. White, M. D., of Boston, Massachusetts; first vice-president, D. Percy Hickling, M. D., of Washington, D. C.; second vice-president, Charles O. Files, M. D., of Portland, Maine; treasurer, Richard J. Nunn, M. D., of Savannah, Georgia; secretary, George E. Bill, M. D., of Harrisburg, Pennsylvania. The next annual meeting is to be held in New York city on September 25, 26, and 27, 1900.

The London Cancer Society has, according to the *Medical Times* for October, commissioned Dr. A. E. Duffy to proceed to the United States for the purpose of collecting data regarding cancer, and especially to study the investigations being made at Buffalo. A prize of fifty dollars has also been offered by the society for the best essay on cancer.

A Dog with False Teeth.—*La Nature*, says the *Medical Times* for October, tells a story about a dog belonging to a well-known English dentist which was scarcely able to feed itself, owing to loss of teeth. It has been fitted with an artificial set (including four canine teeth and as many molars) mounted on a plate in the ordinary style, and now eats meat and even gnaws bones without difficulty, so as to have gained considerably in weight.

Medical Arrangements for the Transvaal.—According to the *British Medical Journal* for September 30th, Major Dodd, R. A. M. C., embarked with other officers from Aldershot on September 23d. He will be embarking and disembarking officer at Durban. He is accompanied by Quartermaster H. S. Brook, R. A. M. C. Miss M. Russell, superintendent army nursing service, and a staff of nurses left for South Africa on the same date. The Secretary of State for War has been unable to accept the services of a large number of men of the Volunteer Medical Staff Corps who had volunteered for employment with the army medical service in South Africa. The Red Cross has notified its willingness to place its aid and resources at the disposal of her Majesty's forces in South Africa, and the Order of St. John of Jerusalem is ready for ambulance duty if required. In India the medical and other branches are prepared to move as soon as definite instructions are received from the war office. The army medical corps is ready to form, according to an Aldershot correspondent of the *Daily Telegraph*, eleven field hospitals and seven bearer companies. The Press Association says it is a matter of comment that many officers who have been selected for service in connection with the Transvaal were employed this summer during the manœuvres on Salisbury Plain. According to the Press Association, the admiralty have communicated with the Union Steamship Company, with a view to ascertaining what vessels they had available for transport purposes to the cape as hospital ships. The admiralty were furnished with the requisite information, and decided to take over from the company the steamers *Trojan* and *Spartan* to serve as hospital ships in South African waters and for other purposes. The work of fitting up these vessels as hospital ships has already been commenced at Southampton, and they are expected to be completed in a week. In all probability when finished they will steam out to Cape Town with a view to being utilized between there and Natal in the event of war breaking out. The ships *Kinfauns Castle* and *Gaika*, from the Royal Arsenal Dockyard, Woolwich, will embark two field hospital companies with medical equipment on a war scale.

The Sanitarian in the Vegetable Garden.—The *British Medical Journal* for September 30th says that one of the most distinguished of our sanitarians, Dr. Vivian Poore, recently gave a demonstration of his method of utilizing closet refuse and its results to a number of members of the Sanitary Institute during the congress recently held at Southampton. At his invitation they visited his garden at Andover, which is situated in a back street and is less than an acre in extent. He explained that sixteen years ago he bought the property, keeping the garden for himself. He found, however, that the house was almost unletable owing to the stench from the privies attached to the cottages near. These he was fortunately able to buy, and he turned all the privies into dry-earth closets, which were scavenged into the garden every morning. The excreta were buried just below the surface and there was no smell. To show that no great extent of ground was wanting for disposing of the excreta in this way, Dr. Poore showed his visitors a plot of ground that measured about seventeen yards by forty-five, and which had taken the excreta of one hundred people for a year. It was not wise to sow seed on this newly treated ground, but one could safely plant vegetables of the cabbage order, and these could be followed by other crops. When he first began these experiments his agricultural friends told him that if he applied the stuff to the land at once he could not succeed; they said he must first place it in a heap and let it, as they termed it, ripen. He was, however, a sanitarian and had two objects one being to get rid of it at once, so he proceeded to bury it as described. Owing to the drought of the previous season he was unable to plant this plot with cabbage so he let it lie fallow, and in the spring of this year had some winter onions pricked out, and they saw the result, a fine crop. By burying it at once it was out of the reach of those insects which deposited their eggs in excreta, thus filling the garden with grubs. He pointed to a bed of Brussels sprouts, some of which were four feet high, which might be objected to; but they showed that the stuff was a good fertilizer, while all the leaves gave off oxygen, and they therefore had the air freshened by them. He also pointed to the result on the fruit trees, which bore heavy crops, and mentioned that he had sold eighteen bushels of currants this season from the bushes. Dr. Poore then took his guests to the well in the centre of the garden. This was lined with concrete pipes on the side, and had a high parapet to exclude surface water. It had never been cleaned out, and the gravel at the bottom was clearly seen after having been in use ten years. He had had both chemical and bacteriological analyses made, and they showed the water to be practically pure, proving that the treatment of the garden by his process did not affect the water. Before leaving, the visitors had an opportunity of testing for themselves the quality of the fruit from the garden, which was pronounced to be of excellent flavor.

The Conference of Health Officials in Michigan.—The fourth general conference will be held in Grand Rapids, on Thursday and Friday, October 26th and 27th, under the auspices of the Michigan State Board of Health. The programme includes the following titles: Address of Welcome, by the Hon. George R. Perry, of Grand Rapids; A Statement of the Objects of the Conference, by the Hon. Frank Wells, of Lansing; Bacteriology in its Relations to the Public Health, by Dr. Frederick G. Novy, of Michigan University, and by Dr. Charles T. McClintock, of the Detroit College of Medicine; A Bacteriologist a Necessity to a Local Board of Health, by Dr. R. M. Luton, of Grand Rapids; Sewerage and Water Supply, by H. E. Riggs, C. E., of Toledo, Ohio; Michigan Water Supplies, by Gardner S. Williams, C. E., of Cornell University; Water Supply, by Samuel M. Gray, C. E., of Providence, Rhode Island, and Allen Hazen, S. E., of New York; Water Purification, by George W. Fuller, S. E., of New York; Typhoid Fever, by Dr. Victor C. Vaughan, of Ann Arbor; Milk Supply, by Ira Johnson, of Grand Rapids; Tuberculosis among Animals and Man, by Dr. George W. Dunphy, V. S., of Quincy; The Duties and Powers of Local Boards of Health and Health Officers, by Judge Aaron V. McAlvay, of Manistee; Local Health Administration, by Dr. Hiram R. Mills, of Port Huron; Vital Statistics as a Branch of General and Local Health Administration, by Dr. Cressy L. Wilbur, of Lansing; and General Health Administration, by Dr. Henry B. Baker, of Lansing.

The Massachusetts General Hospital.—From the *Boston Weekly Transcript* for September 15th we learn that very considerable additions to this hospital are said to be about to be made. In the centre of the grounds is to be erected a new operation building, to contain a large amphitheatre, a medium-sized operation room and three smaller ones, with the requisite sterilizing and other accessory rooms. Additions and extensions will be made to the nurses' home. A "Domestic Building" is also to be erected, to contain stores, dormitories for the domestics, and dining rooms for the nurses, domestics, and house officers. It will also contain a drug department, photograph and X-ray rooms.

Copyright in Lectures.—The *Medical News* for October 7th refers editorially to a recent decision of the English high court of justice in a case in which the defendant was Lord Rosebery, the ex-premier of England, while the plaintiff was the *London Times*. The noble lord, in furnishing speeches for a forthcoming volume, *Appreciations and Addresses*, to his publisher, John Lane, copied almost *verbatim* the text of certain speeches from the parliamentary reports of the *Times*. The *Times* brought suit to restrain publication of the volume, contending that its report of the speeches was covered by copyright, and that the speaker had no right in the premises so far as the form of the speeches went.

The decision was rendered in favor of the *Times*. The argument of counsel was that unless a man takes the usual steps to secure the copyright on a lecture before its delivery, when once it is delivered it becomes public property. As to the rights of the newspaper in the matter, it is conceded that it is the reporter who gives form to the matter, and it is in this that the copyright lies. The reporter corresponds to a translator from a foreign language, and just as a translation may be copyrighted so may the report of a speech.

As American law follows English law very closely in this matter, says the *News*, it is evident that those who are present at medical lectures may bring out such lectures and secure a copyright on them. Of course a lecturer has his protection in being able to secure a copyright before the delivery of a lecture, but he may seldom be in a position to have his lectures in such shape as to take advantage of this right. The *News* suggests that he might, however, copyright certain important lectures of a course before their delivery, so that the set would be noticeably incomplete without them, and thus secure the same object as in copyrighting the whole course in advance.

"Hypnotism" in Animals.—The *British Medical Journal* for September 30th says editorially that it has long been known that certain animals could be "hypnotized." The well-known experiment of Father Kircher, who described, in 1646, how a hen could be induced to lie prostrate and to place its beak on a board when a chalk line was drawn from the point where the beak touched the board to a more distant point away from and in front of the animal, has been copied into our text-books of physiology, together with the woodcut illustrating this curious phenomenon. Dr. Max Verworn, professor of physiology at the University of Jena (*Die sogenannte Hypnose der Thiere*, Max Verworn, Jena, 1898), has made a number of experiments on this condition in various animals, such as birds, frogs, serpents, and guinea-pigs. The experiments were carried out with great care and in large numbers, and the observations carefully compared and classified. Dr. Verworn reviews the various explanations which have been given of the phenomena observed, one of these being the view which attributes the results to "animal hypnotism." This view, however, is not confirmed by Dr. Verworn's experiments. To understand the various factors involved in this rather difficult question it is necessary to pay attention to the habitual attitudes and acts of the animal and to the state of its muscular system. The body, when placed in certain positions, has certain characteristic modes of holding itself therein, and there are also certain facile and well-organized reflexes by which it can pass from unusual or constrained positions to normal and less constrained attitudes. When such reflexes have been accomplished, the muscles of the limbs and body have a tendency to remain in a state of relative contraction, whereby the attitude thus attained is maintained. This persists until a fresh impulse to movement (either "spontaneously" aroused in the brain or reflexly evoked by some stimulus) comes into operation. Even in animals from whom the cerebral hemispheres have been removed these phenomena of resting attitudes and changes of attitude may be observed. Except for the fact that the movements for change of attitude are not capable of any very considerable elaborateness in brainless animals, they are in fundamental features the same in both uninjured and in brainless animals. These movements are accompanied by an increased rate of heart beat and of breathing, which subsides to a lower level when a habitual resting attitude is once more attained. In daily life it can often be observed that when we receive a strong impression from the senses there is temporarily produced an inhibition of voluntary movements or actions. This is what happens in the so-called "hypnotism" of animals. Such phenomena, however, have not the same significance as hypnotism in human beings, which is entirely the product of suggestion. The latter plays no part in "animal hypnotism." The only thing in common is that in both conditions processes of inhibition are present, but it is of course not justifiable to call every such process hypnotic.

The Death of Dr. Fernando Gonzalez del Valle, formerly professor of surgery in the University of Havana, is announced as having taken place recently at an advanced age.

Grotesque "Systems" of Medicine.—Human credulity, says the *St. Paul Medical Journal* in its September issue, is never more credulous than in the matter of the cure of disease, and Americans are modern Athenians in their eagerness of search after every new thing. This is an age, and we are a people, of fads, and a fad in medicine is a favorite species of hobby. From the blue-glass theory to osteopathy, this generation has seen the rise and fall of many a new thing in "cures." The medical profession must reckon with this tendency. It must expect and it must be prepared to reckon with these new systems of healing. The experience of the past should have taught it the folly of abuse and persecution of the exploiters of new faith. Often it is itself responsible for their existence. Often its own failure to embrace certain essential truths has been the opportunity of the fanatic or the fakir. About the nucleus of value which resides in the sun bath the blue-glass craze gathered. The misappreciation of manipulative measures of treatment is the excuse for osteopathy. The psychological principle in human health and disease, neglected of scientific medicine, is the still living soul of that dead body of superstition which goes by the name of Christian Science. These systems have their day and cease to be, leaving behind them a residuum of truth as their legacy to scientific medicine. It becomes the profession to deal with these symptoms as they come and go—not by abuse and antagonism, but by bringing them, each and all, and as speedily as possible, up to the searchlight of a common standard of education demanded by the state. There is no danger in the recognition of alien practitioners of any system, provided they are able to meet the requirements of such a standard.

The Tri-State Medical Society of Alabama, Georgia, and Tennessee is announced to hold its eleventh annual meeting in Chattanooga from Tuesday, October 24th, to Thursday, October 26th, inclusive. The railroads offer reduced rates on the certificate plan. Many well-known members of the profession, including Dr. J. M. Mathews, Dr. A. M. Cartledge, Dr. Lewis McMurtry, Dr. C. A. L. Reed, Dr. Cunan Pope, Dr. Duncan Eve, Dr. W. E. B. Davis, and Dr. George H. Simmons, are expected to be present.

Survival for More than Twenty-three Years after Removal of the Tongue for Epithelioma.—In the *Transactions of the Pathological Society* for 1876 Mr. Christopher Heath reported a case of removal of the tongue for epithelioma. In the *British Medical Journal* for May 20, 1899, cited by *Treatment* for September 28th, a further report, showing that the patient lived over twenty-three years, was made by Mr. Heath.

Inoculation of English Troops against Malaria.—According to the *Southwestern Medical Record* for September, a large number of troops leaving England for Natal were inoculated against malaria. The result will be interesting to watch.

The Growth of Science.—Professor Sir Michael Foster, in his presidential address at the meeting of the British Association for the Advancement of Science, said that whoever, working at any scientific problem, had occasion to study the inquiries into the same problem made by some fellow-worker in the years long gone by, came away from that study humbled by one or other of two different thoughts. On the one hand, he might find, when he had translated the language of the past into the phraseology of to-day, how near was his forerunner of old to the conception which he thought, with pride, was all his own, not only so true but so new. On the other hand, if the ideas of the investigator of old, viewed in the light of modern knowledge, were found to be so wide of the mark as to seem absurd, the smile which began to play upon the lips of the modern was checked by the thought, Will the ideas which I am now putting forth, and which I think explain so clearly, so fully, the problem in hand, seem to some worker in the far future as wrong and as fantastic as do these of my forerunner to me? In either case his personal pride was checked. Further, there was written clearly on each page of the history of science, in characters which could not be overlooked, the lesson that no scientific truth is born anew, coming by itself and of itself. Each new truth was always the offspring of something which had gone before, becoming in turn the parent of something coming after. In this aspect the man of science was unlike, or seemed to be unlike, the poet and the artist. The poet was born, not made; he rose up, no man knowing his beginnings; when he went away, though men after him might sing his songs for centuries, he himself went away wholly, having taken with him his mantle, for this he could give to none other. The man of science was not thus creative; he was created. His work, however great it might be, was not wholly his own; it was in part the outcome of the work of men who had gone before. Again and again a conception which had made a name great had come not so much by the man's own effort as out of the fullness of time. Again and again we might read in the words of some man of old the outlines of an idea which in later days had shone forth as a great acknowledged truth. From the mouth of the man of old the idea dropped barren, fruitless; the world was not ready for it and heeded it not; the concomitant and abutting truths which could give it power to work were wanting. Coming back again in later days the same idea found the world awaiting it; things were in travail preparing for it, and some one, seizing the right moment to put it forth again, leaped into fame. It was not so much the men of science who made science as some spirit which, born of the truths already won, drove the man of science onward and used him to win new truths in turn.

It was because each man of science was not his own master, but one of many obedient servants of an impulse which was at work long before him, and would work long after him, that in science there was no falling back. In respect to other things there might be times of darkness and times of light, there might be risings, decadences, and revivals. In science there was only progress. The path might not be always a straight line, there might be swerving to this side and to that, ideas might seem to return again and again to the same point of the intellectual compass; but it would always be found that they had reached a higher level—they had moved not in a circle, but in a spiral. Moreover, science was not fashioned as is a house, by putting brick to brick, that which is once put remaining as it was put to the end. The growth of science was that of a living being. As in the embryo phase followed phase, and each member of the body put on in succession different appearances, though all the while the same member, so a scientific conception of one age seemed to differ from that of a following age, though it was the same one in the process of being made; and as the dim outlines of the early embryo became, as the being grew more distinct and sharp, like a picture on a screen brought more and more into focus, so the dim gropings and searchings of the men of science of old were by repeated approximations wrought into the clear and exact conclusions of later times.

Original Communications.

THE
RELATION OF PATHOLOGICAL CONDITIONS OF THE ETHMOID REGION OF THE NOSE TO ASTHMA.
THE PATHOLOGY.*

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THE title assumes that either such a relation is supposed to or does exist, and if the latter, the question arises, What sort of a relationship is it? Shall we consider that the nasal condition produces the asthma, cause and effect, or is the ethmoid condition an accidental complication of the asthma, or are they both the outcome, the result, of some depraved condition of the general system which has its outward expression in these two diseased processes; and, if this latter is the case, what is the exact rôle of the nasal disease in the asthmatic complex?

In order to define the position from which this sketch of the pathology is taken we must explain our conception of the condition called asthma. An accepted theory is that there must be first an irritability of the bronchial structures which makes possible the explosion of energy known as asthma. This hyperæsthetic condition is frequently the result of disease, and the multiplied and oft-repeated attacks always induce chronic inflammation, and consequently greater irritability. Secondly, we usually find that some other structure is diseased or oversensitive. An irritation or disturbance of it sets into motion the spasm of the bronchial apparatus. Thus we find that one asthmatic has a nose, another a stomach, another a kidney, or even an ovary, and if to these vulnerable organs certain stimuli are applied an explosion results. But to connect the nose, stomach, or kidney with the bronchial tubes a third element must be brought in—namely, the vasomotor system, or, as it is more often put, the neurotic habit.

Now, setting aside with only a word the very broad question as to the explanation of all the phenomena of asthma, we find that the nose can be considered in this sketch as only one of the diseased conditions, although a very frequent one, which can initiate an attack of asthma. This is the case whether we view the final explosion as one purely of vasomotor effects, or whether with greater probability we believe both a vasomotor paralysis and contraction of the bronchial musculature are necessary to the phenomena.

The question now stands, then, with diseased nose, irritable or diseased bronchial tubes, and neurotic or irritable vasomotor nerve fibres assumed as existing, What is the initiatory of the attacks, and why do they occur? What is there peculiar in the nasal conditions which brings on these distressing results, and what happens to the nose to make the affair begin? In some cases the way is plain—namely, the pollen of the hay-fever patient or emanations from animals give the start through the existing nasal conditions. In other cases our evidence is not so clear. Take a case where the patient has a few polypi, and every morning at three or four o'clock, especially after an evening dinner, he is awakened suddenly by an asthmatic attack, and, his polypi being removed, his condition gradually improves and the asthma disappears. What is there different in the nose other than the absence of a little tissue, and what did the polyps do to make the trouble? Evidently one link in our chain has been broken, and thus its power destroyed. Now, if the polyps were not causative of the asthma, then it must follow that if we could break any of the other links of our chain we could also destroy its spell. Does not this happen when we give our patient potassium iodide, or send him to Colorado, and he has no more asthma? His polyps do not necessarily disappear, and we have often learned that the moment he returns to the East he has his trouble over again. I have thought that the rarefied air in these cases either helped the bronchial condition, or the change of environment, with fresh air and exercise, improved his neurotic habit, or both, and thus other links were broken than the nasal. Whether this is true or not, however, it is evident that the mere presence of the polyps does not explain the attacks—the environment and life of the patient have much to do with it.

Now, what shall we say of so subtle a difference as exists, polyps and all, in a case such as I beg Dr. Rice's pardon for relating before he has read his paper on Clinical Phases. You have probably all seen exactly similar cases. This patient, to relate the case most briefly, had the ordinary symptoms of sneezing catarrh. Every morning, with greater or less regularity as to the hour, he would awaken with attacks of sneezing and have a most violent coryza for two hours, during which period, for a few weeks previous to my seeing him, he had begun to have a little asthma. He came at the suggestion of an eminent specialist in another city who wished me to remove the polypoid tissue, anticipating a speedy relief to the symptoms. The patient was a very healthy looking young man of twenty-eight years, engaged in business in the city. The conditions which obtained in his nose were hypertrophies of the œdematous type on both middle turbinates and the usual pale swelling on the inferior turbinate. On the left side a spur from the sæptum with a sæptal hypertrophy anterior to it were also present. The most irritable areas existed on the left side. The regulation treatment was instituted. The spur was removed, the œdematous tissue first snared off as far as possible, and then the galvanocautery applied to it and to the inferior turbinal and sæptal hypertrophies. He stopped smoking, a most heroic task for him, and took exercise. He was also more out of doors, and, in short, did everything he was told, only to find that he was benefited for a time by each of the many procedures, and that later his œdematous tissue in a measure returned. He discovered that when he was occasionally in the country and slept away from home he escaped his attacks, which had continued less in degree from the start. On one occasion a whole week elapsed without an attack, and the first night at home he had a short one, and the second a very severe one. Something led me to inquire as to the arrangement of his bed and room, and I found the usual equipment. I suggested a hair pillow. He used it, and from then on he was free from trouble, being able to sleep on any other pair of pillows in the house except his own, which had a musty smell. Now comes the curious part of it—namely, that, being free from the irritation, his middle turbinates, without any treatment whatever, diminished in size, and since then I have seen him a number of times during the three years that have elapsed. He can exercise violently without shortness of breath, and smokes inveterately. Evidently irritation of irritable nerve fibres had something to do with the formation of œdematous tissue, and hence with asthma, and the case shows the excessive and, withal, elective irritability of the nerve fibres supplying the respiratory tract, and especially that of the middle turbinate region. But it must be remembered that therapeutics were of no avail until the feathers were changed, and that there was certainly, as the result of the subtle but powerful influence of that particular brand of feathers, not only an irritation to the nerves, but the irritation, being long continued, caused œdematous tissue to develop, and thereby the contact and pressure sufficient to induce asthma. Hence we have plainly one cause of nasal disease assured—namely, that certain irritations applied to certain nerve fibres will produce congestion and chronic inflammation with swelling and watery discharge. This leads to the soaking of the tissues of the middle turbinate region, œdematous hypertrophies appear, and later these assume the form of polypi. This may be said to be true not only of the hay-fever subject, and cases like the one related, but occurs also with many dusty occupations, such as, for example, bakers and workers in grain elevators. But back of all is one factor—namely, the peculiar hypersensitiveness of the nerves which will allow of such results. This is to be referred to either inherited or acquired peculiarities. The latter may result from disease, but once present seem persistently operative, and are sometimes well-nigh irremediable. Whether inherited or acquired, there seems always to go hand in hand with this, certainly locally, and, I am led to believe, frequently all over the whole body, a thinness or flabbiness of the blood-vessel walls and a vasomotor responsiveness to irritation which make possible the explosions which are the bane of the existence of these afflicted mortals.

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* Read before the American Laryngological Association at its twenty-first annual congress.

On another occasion I have ventured to suggest that this might be considered as always the inherent peculiarity of the neurotic subject. These supposed conditions would explain the headache, the asthma, the neuralgias, the dyspepsias, and the nervous prostrations, all of which at the start are but explosions, the vagaries or spasms of one or another set of blood-vessels. Later, by excessive distention and oft-repeated stretching, the blood-vessel walls in the afflicted areas become permanently stretched and flabby, and thus actual organic lesions are possible. This will apply most aptly to the pathology of the subject under consideration.

In the main the lesions of the ethmoid or, generally speaking, middle turbinate region are of an œdematous nature. How rarely if ever does one see a case of genuine atrophic rhinitis with asthma! The lesions are therefore hypertrophic in character, and at first confined to the mucous membrane. In something more than sixty cases, purulent ethmoid disease has only existed three times, and in these it was secondary to long previous existence of œdematous tissue. Marked disease of the bony structures occurred in these sixty cases some six or eight times without purulent conditions, and was here also due to inveterate polyp formation, which latter I am led to believe is always the rule —*i. e.*, that the disease of the mucous membrane precedes that of the bone. Sæptal spurs and bends seem to keep up middle turbinate disease and increase the possibility of pressure, which seemed in a great many cases to explain asthma. But in all, whether complicated or not, there was hypertrophic disease always present, and usually of the œdematous type. Very often these œdematous hypertrophies were polypoid in form.

We have, therefore, in our cases merely to explain the production of hypertrophies, œdematous and otherwise, to have our pathology of nasal lesions clearly discussed. The explanation as I view it is something like this: We have as a result of our environment and the conditions obtaining in the bony framework of the nose in any given individual an hypertrophy of the middle turbinate. Such a condition usually gives a pretty definite microscopical picture. Suppose that the patient has hypersensitive nerve development, and the slightest variations of temperature, or the mildest forms of irritation on this hypertrophy, produce congestion with consequent increase in volume. With vasomotor irritability these congestions are more stormy and more often repeated than in simple hypertrophy, and the stretching of the venous trunks occurs. In simple hypertrophies and in non-neurotic subjects these latter are well supplied with muscular coats, and soon contract down again to their normal size. But given locally in one small area, or inherently in the whole membrane, a lack of tone to the muscular coats, vasomotor ataxia, or the deficiency in the amount of muscle fibre inherent to the neurotic habit, and the result is inevitably permanent stretching and flabbiness. Just as inevitably in time there follows the possibility of filtration, and some waterlogging of the tissues results.

Now, an œdematous hypertrophy always distinguishes itself microscopically from the more healthy variety by thin-walled blood-vessels and the existence of a material exuded into and between the fibres of the connective tissue. This forces the fibres apart and destroys the function of the smooth muscle cells which are always present in a healthy mucous membrane, and they disappear, making it still more impossible for the tissue to contract. Into certain depending areas there would naturally occur more soaking, and, some weak fibres having given way, we should have bulging of certain areas, and anon the polyp bud comes forth to increase and wax great as it depends more and more.

All this simply explains œdematous tissue. How does it produce asthma? All such processes as the above seem to be favored by pressure, which adds to the passive congestion and growth of the thickening, and brings into existence contact areas and increase of pressure. With the latter present, the initiative of the asthmatic attack is easy, if at the same time the bronchial apparatus is also diseased or susceptible. With cooling off of the night air, for example, such as always occurs toward morning, and the recumbent position favoring flux of blood to the head, the sensitive nerves in the œdematous areas are suddenly stimulated and an increased flow of blood to the nose causes swelling and immediate increase of pressure. We have assumed excessive nerve sensitiveness. Hence, the pressure which a normal nerve would receive, and by which it would not be annoyed, is to the sensitive individual a sufficient cause to bring into play the reflex action in the bronchial tract, and the latter consequently has its vasomotor equilibrium disturbed. Some swelling of the bronchial mucous membrane undoubtedly takes place, and in the same way there is a stimulation to the pneumogastric which immediately causes a spasm of the bronchial musculature to take place, and then our asthmatic is in the toils. Pressure in the nose seems, therefore, to be necessary to the causation, and explains why many cases are so much relieved by the removal of the main mass of the offending tissue in the nose. Often, however, we are unable to get cessation of attacks even after apparently most complete removal, and this would perhaps be explained by the fact that the avenues having been once established, it takes only the slightest irritation of the hypersensitive nerves to start an impulse sufficient to set the bronchi into a spasm without actual pressure on the contact areas. Such is the persistency of the convulsive habit; also we must consider that by the same line of reasoning as explained in nasal pathology, the bronchial structures not only become more easily convulsed, but are by virtue of these attacks actually diseased, becoming distended, congested, and thickened.

The pathology in brief, therefore, involves step by step the following sequence, it being understood that the whole process may take years to develop, or it may occur in a much shorter time. We conceive first the existence of a simple hypertrophy in the nervously hypersensitive individual. The vasomotor instability and the nerve irritability cause further development of the lesions in the middle turbinate region, and produce in time waterlogging of the tissue. This becomes then an œdematous hypertrophy, and this latter may become a polyp. These lesions produce pressure over sensitive areas, which through constant irritation from pressure become more sensitive, so that reflexly there is produced a bronchial vasomotor disturbance. If once the reflex avenue has been opened it is easy to conceive that the disturbance, which is felt first as a sort of oppression or weight in the chest, becomes later a genuine obstruction to breathing, and, there being added to this a spasm of the bronchial tubes, we have a full-fledged asthma.

This explains the genesis of those cases of asthma which are essentially nasal in type. Now there are asthmatics whose attacks are not apparently nasal, but who are nevertheless made very much better, and sometimes entirely relieved, by removing any existing nasal disease. These people have their disturbance only under peculiar conditions, such as overindulgence in food or drink, disturbed kidneys, a cold, a rheumatic explosion, or the onset of a menstrual epoch. These apparently work through the vasomotor link in our chain. There are cases which baffle us entirely and in which our pathology is hazy because we do not get at the cause; but oftentimes our reward comes by the discovery, as in the feather case, which is by no means an exceptional one, of an ætiological factor quite outside of our ordinary conception of the causation. Occasionally we find our only remedy is change of environment, and then we remove one or another of our causative factors.

The deduction is plain, therefore, that when treating many of the pathological conditions in the nose, whether asthma exists or not, we must often look outside of the nose, and many times outside of the body, for the causes which lead up to them.

THE CAUSE OF DEATH FROM INDUSTRIAL ELECTRIC CURRENTS.

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(*Concluded from page 587.*)

The Action of Strong Currents on the Heart.—Theoretically one would suppose, as has been briefly mentioned elsewhere in this paper, that the cardiac muscle, or at least the ventricular part of it, was killed outright or paralyzed by the current. It is conceivable, of course, that if the lethal current were of enormous intensity and of enormous electromotive force, not only the heart but the entire body might be disrupted instantaneously into atoms; but the possible action of such currents, which no one has produced artificially, does not concern us. So far as all previous experiments with the ordinary commercial currents in use during the present time indicate, none of these currents seem capable of producing such a total instantaneous disintegration of the body; consequently, no further consideration of the subject from this aspect need be given.

If the thorax of an animal is opened immediately after a strong continuous electric current, or strong alternating current of medium frequency, has passed through the heart *via* the skin, and the heart is exposed, a careful scrutiny of the still quivering ventricles will show that though the coordinated beat of the heart as a whole is absent, the various minute bundles of muscle fibres are alternately contracting and relaxing with considerable vigor in various parts of the ventricles. But as the right cavities of the heart become more and more distended by the accumulating venous blood, the asynchronous quivering of the various little bundles of muscle fibres grows less and less, until finally every trace of muscular contraction disappears from the greatly distended ventricle. In other words, the current seems to have thrown the heart into the condition known to the physiologist as *delirium cordis,* or preferably, *fibrillar* contraction.* That there is no question of the instantaneous death of the muscle cells of the heart, nor of their paralysis, nor of profound molecular changes invisible under the microscope, resulting from the direct disruptive action of the current is readily proved if Porter's method † or any other method for recovering the excised dog's heart from the condition of fibrillar contraction is employed. This method consists essentially in the perfusion of the blood-vessels of the heart with warmed defibrinated dog's blood ‡ diluted with 0.8 per cent. saline solution, and by means of it I have repeatedly caused the fibrillating excised hearts of numerous electrocuted dogs to beat coordinately again, and to continue contracting coordinately for fully an hour, and ceasing then only because of the discontinuance of the artificial circulation. As is frequently the case where efforts are made to recover the fibrillating heart, I found it often necessary to check all movement of the cardiac fibres by plunging the hearts into iced saline solution for some moments before the hearts of these "electrocuted" dogs could be made to resume their coordinate beats.

That the heart of an "electrocuted" dog excised soon after the application of the lethal shock can be made readily to recover its coordinate contractions by artificially restoring the circulation through it, clearly disproves the idea that the muscular substance has been paralyzed or killed by the current. Had the fibres been paralyzed, no movements would have been noticed after the passage of the shock; and had the muscle been killed, naturally no recovery could have occurred on restoring the circulation. Probably the effect of the electrical stimulus has been to disturb the balance of the hypothetical intracardiac coordinating mechanism, the nature and location of which modern physiologists are still endeavoring to elucidate.

As is well known, the mammalian heart is easily thrown into the condition of fibrillar contraction by various other kinds of stimuli, mechanical, chemical, and by cold (McWilliam); consequently the effect is physiological in nature, and not one that is only characteristic of the electric current. Naturally, the hearts of some animals of the same species respond to such stimuli more readily than they do in other animals. Currents of a strength fully sufficient to throw the hearts of some animals into fibrillar contraction will thus entirely fail, as I have noted previously, to produce that effect. Certain kinds of electrical current—for instance, the various kinds of alternating currents of moderate frequency, the intermittent, and the coarsely pulsatory continuous currents—produce this variety of cardiac contraction more readily than a current of continuous electro-motive force. Accidental contact with such currents is thus more liable to be followed by fatal results than the contact with a current of equal maximum voltage, but whose electro-motive force is continuous.

As it is thus clearly proved that the rapid death following the brief application of a strong electric current to the dog, and also very probably to man, if the observations of autopsies made upon criminals immediately after their electrocution is considered, is due to the fact that the electric current or stimulus induces fibrillar contraction of the heart, a condition from which the hearts of the higher mammals very rarely recover spontaneously, it should follow logically that certain animals possessing hearts that easily recover spontaneously from the state of fibrillar contraction would be killed by such currents only with great difficulty, or, in fact, mainly by asphyxia. Consequently I endeavored repeatedly to electrocute frogs and a small turtle with the 115-volt continuous dynamo current, but, as had been expected, none of these animals could be killed by that current, and all of the frogs fully recovered within a few minutes. Two of the experiments were as follows:

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* June 6, 1899. This fact, as well as several others of less importance mentioned in this paper, which lack of space prevents me from enumerating in detail, has been recently described also by Prevost and Battelli (*Comptes rendus de l'Académie des sciences,* séances de mars 13 et 27). As some of their observations are almost identical with some of those described in certain portions of this paper, it should be noted in justice to myself as well as to those investigators that this paper, though completed during the latter part of February, 1899, was held back until March 31, on which date it passed into the hands of one of the prize committees of the Alumni Association of the College of Physicians and Surgeons, New York, where it remained until it was sent to the *Journal.*

† Porter. *Journal of Experimental Medicine,* 1897, vol. ii, p. 391.

‡ Ludwig and Hoffa (*Zeit. für rat. Med.,* 1850, ix, p. 135) recovered the hearts of dogs and cats after they had ceased to beat by injecting cold calf's blood through the coronary arteries.

EXPERIMENT V.—Small frog. Current from head to hind legs equaled 0.8 ampère. Three shocks of one minute duration at intervals of ten seconds. During the shock animal in a general tetanic condition. For three or four minutes after the shocks marked general muscular relaxation was present, but in ten minutes the animal had completely recovered.

EXPERIMENT VI.—After exposing the heart of an etherized turtle by trephining the plastron and enlarging the orifice with a rongeur, the electrodes were applied to the tissues very close to each side of the heart. Current equaled 0.4 ampère, applied for one minute. Cessation of the heart beat during and for several moments after the stimulation. After an interval of about five minutes the same current was applied for four minutes. Result same as before. Left border of heart considerably charred, nevertheless it quickly recovered its coordinated contractions and continued to beat for a number of hours, when the animal was then killed by decapitation and removal of the still beating heart.

Thus these results fully accord with the various observations made by me upon the dog.

That the passage of a strong electric current, continuous or alternating, of a moderate frequency,* through the heart *via* the skin throws the heart into the condition of fibrillar contraction is a fact which in my judgment is not so remarkable, for it has been long known to physiologists that the direct application to the exposed heart of magneto-electric currents (Weber,† Ludwig and Hoffa ‡), continuous currents from batteries and from small physiological induction coils (Einbrodt,# Mayer,|| Herbst,^ McWilliam ◊), would produce such a condition in the hearts of certain varieties of animals. Herbst endeavored to produce this cardiac effect by applying the electrodes to the skin, but, as is proved by his negative results, the currents he employed were evidently too weak. Similarly Mann ‡ was unable to definitely influence the cardiac movements in man by the application of the electrodes to the skin in the region of the heart. Nevertheless, from the very definite results described in this paper, the conclusion is evident that the physiological action of the current upon the heart is the same whether it is applied directly to the heart or whether it is applied to the skin so that the heart is included in the circuit.

On the Instantaneity of Death from Industrial Currents.—According to the consensus of opinion, writers on the subject of death by the electric shock agree that such a death is instantaneous. Such, however, from the results of the preceding experiments, is not a fact. All the tissues of the body, the nervous system, the heart, etc., are clearly not killed instantaneously, and, as is evident, at least one of the most important nervous mechanisms, the respiratory centre, continues to act more or less perfectly for some moments after the cessation of a lethal current.

Judged from our tracings, from the experiences of three of my patients who had received severe but fortunately not lethal shocks, and from the published accounts of sixteen cases of recovery after electric shocks, there seems to be ample time before loss of consciousness occurs for the recipient of the shock to become fully aware of the fact that he is, or has just been, in contact with an electric current. Thus every one of the nineteen individuals mentioned above felt some very distinct form of sensation before consciousness was lost. Generally speaking, the sensation was not particularly painful, and was described by them as similar in character to the sensation produced by catching hold of the electrodes of a small but strong medical induction coil. Usually a sensation of tremendous pressure across the chest is also felt. Several years ago I had the opportunity of witnessing an electrical accident, which, fortunately, did not result fatally for the recipient. On this occasion I was standing close to a trolley car, watching one of the electricians, who was just on the point of removing a defective brush from the motor. He was partially beneath the car, with his right hand on the brush, when he inadvertently rested his left hand upon a live rail; immediately his muscles became tetanic and he was thrown backward in an instant, thus severing his connection with the live contacts. In a few moments syncope occurred. While in this state the respirations were at first rather rapid, later possibly a little slower and shallower than normal. His pulse was very soft, rapid, and slightly irregular, but soon became normal. In about thirty seconds consciousness returned. He then vomited once and was able to get up by himself, though he complained of feeling extremely weak. The next morning he informed me that the prostration had persisted for about two hours after the shock and then disappeared, leaving him feeling as well as ever. The electro-motive force of the current in this instance was about five hundred volts. How much actually passed through him one can not tell, but certainly not more than a very small fraction of an ampère.

Judging from our experimental results produced by applying milder currents for various lengths of time, the clinical manifestations exhibited in cases like the one just related seem to be produced as follows: As the

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* Alternating currents of very high frequency applied to the exposed heart produce an *increase* in the number of heart beats and fibrillation is not produced. Further details of the effects of such currents will be described in another paper.

† E. Weber. Wagner's *Handwörterbuch der Physiologie*, 1846, Bd. iv, p. 35.

‡ Ludwig and Hoffa. *Zeit. für rat. Med.*, 1849, Bd. ix.

# Einbrodt. Moleschott's *Untersuch.*, 1859, Bd. vi, p. 537.

|| S. Mayer. *Wien. Akad. Sitzungsb.*, 1873, Bd. lxviii, Abt. 3.

^ Herbst. *Arch. f. exp. Path. und Pharm.*, 1884, Bd. xviii, p. 423.

◊ McWilliam. *Journal of Physiology*, 1887, vol. viii, p. 298.

‡ Mann, J. D. *Medical Chronicle*, April, 1885.

accidental contact with the live wires, rails, brushes, etc., is made, more or less pronounced general muscular contractions immediately occur. After a deep inspiration and expiration respiration may possibly be briefly inhibited, but quickly rebegins. Temporary inhibition of the action of the heart accompanied by a fall in the blood pressure is also manifest almost from the moment the shock begins. With non-fatal currents of brief duration the normal heart beat and the normal blood pressure are soon recovered. From the diminution of the blood pressure and the consecutive disturbance of the cerebral circulation, more or less syncope frequently occurs, from which the individual gradually emerges after the restoration of the circulation to the normal. In certain instances where a large portion of the current traverses the brain, as in those rather rare cases in which the live wires form contact with the head and the back of the neck, the underlying sensory motor centres of the brain may be stimulated to such a degree that in a few moments one or more general fits, quite similar in many respects to an epileptic fit, may be produced. With severe fits of this character most probably consciousness is lost, as in ordinary epilepsy, at the beginning of the fit. Consequently, should the cerebral anæmia resulting from the lowered blood pressure and disturbed heart action not have induced syncope previously, the onset of a general fit in all probability would be accompanied by complete loss of consciousness.

Since death may occur in one of two ways in cases where the electric shock proves fatal—namely, from asphyxia, or more commonly from the complete extinction of the circulation and the consecutive cerebral anæmia—undoubtedly death by the first method is far from being instantaneous, while in the second way, though it occurs very rapidly, nevertheless it is not absolutely instantaneous. Though "dead men tell no tales," it seems highly probable that before the brain becomes sufficiently anæmic for consciousness to be completely lost, a brief period of conscious perception exists, immediately following the closure of the circuit. Just what the sensation during this brief period is must naturally for the present be simply surmised. From the experiences of the various cases mentioned above, the chief sensation perceived in fatal accidents during this brief period is most probably that of an electric current, and probably not of a very painful one at that. With the nearly instantaneous extinction of the cerebral circulation such a rapid and complete cessation of the functions of the cerebral cortex occurs that no time remains for sensations other than those of an electric current to be felt before the cerebral perceptive nerve centres have ceased to act. Even after the circulation has been entirely extinguished by stoppage of the heart beat, many of the medullary and spinal-cord centres in the dog continue to manifest evidences of activity, often for several minutes. Neither mode of electrical death is thus absolutely instantaneous. All that one can say definitely is that when the heart suddenly stops death occurs very rapidly. Just how long certain nerve centres in the medulla and spinal cord survive the extinction of the circulation is naturally a difficult thing to decide. From my experience with dogs, it seems to be a very definite fact that the above-mentioned nerve centres in some animals withstand the complete anæmia for considerably longer periods than they do in other animals.

We may conclude, then, that none of the industrial electric currents can produce instantaneous death of the whole body, or even of the nervous system, unless the current density of such currents in the body is sufficiently great to produce immediate heat coagulation of the cellular elements and other components of the body. So far as I am aware, currents of such intensity and of the requisite electro-motive force are not to be found among the industrial varieties of electric currents.

Spontaneous Recovery after Electric Shock.—Obviously this subject is one that is of great interest not only to medical men but to the general community. Frequently during the past few years there have appeared in the public press, and in the medical press as well, usually after an official electrocution of some criminal, sundry editorials, short papers, and letters to the editor entitled "Who is the Executioner?" "Did the Doctors or the Electric Current kill — —?" etc. By such queries it is evidently intended to cast doubt upon the real death of the criminal from the effects of the current, and to convey the idea that the pathologist by his autopsy was the one who caused the final death of the criminal. Consequently, as both the lay mind and the professional mind seem to be still uncertain as to the probability of the spontaneous recovery of an individual after a strong electric current has passed through him in such a fashion that a considerable portion of the current has traversed the heart, a brief discussion of this question seems quite apropos.

Many cases of electrical accidents bear witness to the fact that an individual may be in contact, usually imperfect contact, with conductors carrying currents of considerable intensity and of high electro-motive force for a considerable time, without such a current producing a fatal effect. In such cases possibly none of the current, or undoubtedly but a very small portion of the current, traverses the heart. Thus the coordinate contractions of the heart are not stopped, and after the flow of the current has ceased recovery soon occurs. As such currents may produce a dangerous, or even an ultimately fatal, asphyxia from partial or from complete inhibition of the respiratory movements during their passage, spontaneous recovery under such circumstances will depend naturally upon the degree of the asphyxia. If the nervous system has been profoundly asphyxiated before the current is stopped, spontaneous recovery, as in asphyxia produced by other means, is naturally doubtful. In the milder degrees of asphyxia recovery is extremely probable.

But when the current through the body is a strong one—for instance, one of from one to eight ampères—and passes through the heart, that organ goes, as has been pointed out, immediately into the condition of fibrillar contraction. Spontaneous recovery of the highly organized human heart with complete restoration of the extinguished circulation, produced by even a very brief passage of a strong current, is extremely improbable. In fact, so improbable would such an occurrence be, judging from the difficulty with which the excised fibrillating dog's heart is recovered by artificial perfusion of blood, that one may safely say that it would never do so spontaneously before the vitality of the central nervous system had become so reduced as to be incapable of recovery. After the arterial blood pressure has disappeared, I have never seen a single instance in a series of more than thirty experiments on dogs in which spontaneous recovery of the coordinated contractions of the heart with restoration of the general circulation occurred. Herbst and McWilliam have observed that after the brief application of the electrodes directly to the exposed heart of the dog a very brief period of fibrillation may be followed by the reappearance of a few coordinated beats. Should such recovery of the heart occur before the general blood pressure has become greatly diminished, possibly the slightly disturbed circulation may be restored. Once the general blood pressure has fallen to zero, the right heart rapidly becomes so overdistended with venous blood, which may coagulate in a few moments, that even though one or more feeble coordinate beats occur, the overfilled right heart can not empty itself with sufficient rapidity through the lungs so that the left ventricle can produce enough pressure in the aorta for the necessary blood to be forced through the coronary circulation rapidly enough for the spontaneously restored coordinate contractions to be maintained. As McWilliam has pointed out, the simpler the heart the more readily does it recover spontaneously from the condition of fibrillar contraction. Thus in the frog spontaneous recovery after severe shocks seems to be the rule.

With a brief postponement of the autopsy for a maximum period of one hour after the official electrical execution, if no signs of recovery are manifested by the executed criminal, undoubtedly the minds of all parties concerned may rest assured that the autopsy is performed upon an individual who can not possibly recover spontaneously, or, in fact, be recovered by any artificial means. But even at the end of an hour the *excised* heart of such an individual could be made very probably to beat again coordinately if it were perfused with blood.

Resuscitation after Electric Shock.—Although it has been emphasized by d'Arsonval, first in 1887 and later in 1894,* that after an electric shock the individual should be treated by means of artificial respiration, as in case of the drowned, "since the condition after the shock is merely one of suspended animation in which the respiratory function is suspended," it is clear, both from the results of others as well as from my own results, that in the majority of instances there exists absolutely no indication for the employment of such a measure. In fact, the emphatic recommendation of such a procedure is clearly based upon an utter misconception of the true physiological state of affairs present in the vast majority of individuals after a powerful electric shock. Only in those rare instances in which the current passes for a long time mainly through the brain and upper part of the spinal cord, but not to any extent through the heart, would there be a possible real indication for the performance of artificial respiration after the shock, and not even then unless very shallow movements or a complete absence of respiration were found to be present. Such a condition of asphyxia after contact with powerful currents is, however, quite rare, for, as a rule, accidental contact with live wires, etc., usually occurs *via* the hands or arms. Consequently, in fatal cases a considerable portion of the current undoubtedly traverses the heart. Naturally, the performance of artificial respiration in any case will do no harm, though how it can do any good when once the heart has ceased to beat and the circulation has been arrested I do not see.

It is evident from the state of affairs existing in the vast majority of instances after an apparently lethal shock has been received from an industrial current that, in order to resuscitate the individual or the experimental animal, due consideration must be had for the following existing conditions: First, that the heart is in the state of fibrillar contraction, a condition from which it will most probably not recover spontaneously; secondly, that the circulation of the blood is completely arrested; thirdly, that the central and peripheral nervous system are rapidly dying from the lack of blood supply; fourthly, that the right heart is rapidly becoming overdistended by the inflowing venous blood, thus very materially diminishing the chances of a spontaneous recovery of the heart; and lastly, that the longer the arrest of the circulation continues the greater is the liability of the blood to become clotted in the large veins and in the right cavities of the heart.

Such being the conditions, clearly the indications are to quickly restore the circulation, not only of the nervous system, to keep it from dying, but also of the heart, so that it may quickly recover its coordinated contractions. So far as I know, there is but one way in which this may be possibly accomplished—namely, by creating artificially a temporary circulation of a fluid capable of sustaining the heart and the nervous system, until the heart has recovered sufficiently to maintain the circulation in the normal manner. Thus arterial transfusion toward the heart, or injection at considerable pressure, of some supporting fluid is indicated at the outset. Of all the various fluids recommended by therapeutists for intravascular injection undoubtedly the defibrinated blood from another animal of the same species is the only fluid that will fulfill the requirement of maintaining the nervous system. Consequently defibrinated blood should be the supporting fluid selected for injection. However, the mere arterial injection of warmed defibrinated blood would not result in establishing the requisite mode of circulation, for the injected blood after passing through the capillaries simply continues to accumulate in the venous system and in the distended right heart, until finally the veins rupture or the general vascular pressure equals the pressure of the blood that is being injected. Obviously also, the overdistention of the heart very seriously impedes or, in fact, entirely prevents the reestablishment of the coronary circulation, an extremely important factor as regards the ultimate reestablishment of the coordinated heart beat. Therefore such an enormous increase in the venous pressure and the overdistention of the heart should be prevented by establishing an outlet from the right ventricle for the injected defibrinated blood. With such an outlet the oxygenated blood injected into the arteries would circulate as desired through the nervous system and through the coronary arteries, but naturally no pulmonary circulation would be present. Thus artificial respiration, except as a possible adjuvant to facilitate the outflow from the right heart, would be superfluous until after the establishment of the pulmonary circulation by recovery of the right heart.

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* D'Arsonval. *Comptes rendus de l'Académie des sciences*, 1894, p. 1139.

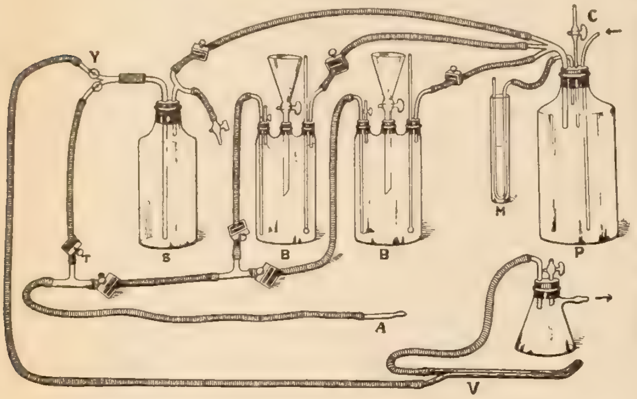

FIG. 4.

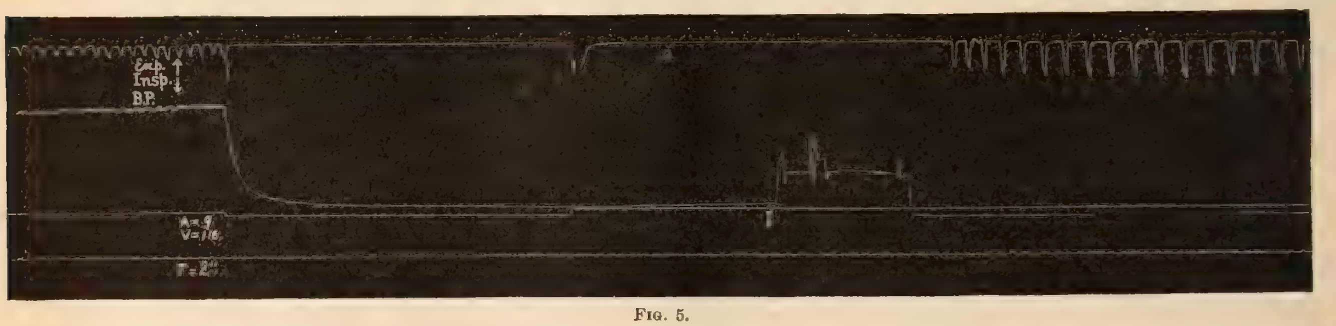

FIG. 5.

With such an array of serious obstacles to be overcome the outlook for the invention of a simple, always ready, quickly applicable, and infallible method of resuscitation after electric shock is certainly far from promising. The mere probability of having to make an intravascular injection of human defibrinated blood, or even of the blood from some other species of animal, complicates the method to such a degree as to practically prohibit its application in the ordinary cases of accidental death from electricity. But the circumstances are entirely different in the experimental laboratory. There, all can be prepared properly beforehand, so that immediately after the experimental animal has received the electric current the various necessary procedures for its resuscitation can be performed rapidly and conveniently.

To carry out the method described below requires the assistance of at least two skilled assistants, and the services even of a third will be of great use very frequently. Naturally, the apparatus as figured below need not be quite so complicated, but for experimental purposes it is very convenient when arranged in that form.

Briefly stated, the apparatus (Fig. 4) in a general way closely resembles the well-known form of injection apparatus that has long been in use in many histological laboratories. The large bottle, *P*, that distributes the pressure to three smaller bottles (*B, B, S*), containing the injection fluids, is preferably connected to an air pump in constant action. By adjusting the vent cock, *c*, the required degree of pressure can be maintained easily. The large Woulfe bottles, *B, B,* can be made to empty their contents singly or together through a tube which is inserted into the carotid artery, by opening or closing the proper pinchcocks that control the inflow of air and the outflow of fluid. The bottle *S* can be made to deliver its contents through the connection at *T* to the tube to the carotid artery by means of one of the arms of the *y* located on its exit pipe, or the contents of *S* may be discharged through the smaller of the tubes composing the long double-tube cannula that is passed *via* the large external jugular vein of the dog into the right ventricle of the heart. The larger tube of the double cannula is attached to a bottle from which the air is constantly exhausted by a vacuum water pump. The bottles *B*, *B* are filled with warm defibrinated dog's blood diluted with 0.8 per cent. saline, and the bottle *S* is filled with very cold (1° C.) 0.8 per cent. saline solution. The action of the apparatus is as follows: After the electric current has arrested the circulation and the respiratory movements are no longer present, defibrinated blood is rapidly injected into the right carotid artery. At the same time blood is withdrawn from the right ventricle through the double cannula that has been passed down the external jugular vein after the current has been shut off. When enough of this dark venous blood has been collected an assistant empties it from the bottle, defibrinates it, and filters it through glass wool, so that it may be injected again into the arterial system. Should the heart not recover from the simple injection of the defibrinated blood, the tendency to further fibrillation may be diminished by allowing the ice-cold saline to flow into the right ventricle through one pipe of the double cannula. While one bottle of the defibrinated blood is being injected the other bottle may be refilled with fresh, diluted, warm defibrinated blood.

Generally in a few moments after the beginning of the injection the respiratory movements begin and become quite normal in depth, although slightly slower (Fig. 5). After a very strong shock the heart probably will not recover for some time, and often it will not recover its coordinate beat even though the injection is continued for over an hour. Nevertheless it still lives, for on excising such a heart and injecting the defibrinated blood directly through the coronary vessels and applying ice to its exterior it will usually recover quite quickly. If the outflow from the right ventricle can not be maintained, either from frequent clogging of the tube or from clotting of the blood in the great veins and in the heart, absolutely no chance exists, according to my experience, for the recovery of the heart while it remains in the body. As long as the blood continues to be injected into the carotid, provided the outflow from the right ventricle is maintained, the rhythmical respiratory movements, and generally other movements also, continue. If the outflow becomes choked, the respiratory movements cease in a few moments, but they will return readily if the outflow is quickly reestablished. Furthermore, the earlier the artificial circulation is begun the greater the chance of success. Even within three to four minutes after breaking the current I have often found the blood clotted to such a degree in the right auricle and veins in certain dogs, especially when they had been fed on the morning of the experiment, that every chance of possible resuscitation was precluded. Numerous failures in maintaining the activity of the nervous system until the heart passes from the condition of fibrillation have taught me that the greatest care should be taken to have the inflowing blood of the proper temperature—namely, from 36° to 38° C. Should the blood become cool, the nervous system is killed very quickly. Thus in several instances I have been able to maintain a regular, rhythmical rate of respiration for over thirty minutes, but suddenly, on accidentally allowing blood of too low a temperature to flow into the arteries, the respiratory movements ceased very suddenly and permanently, although feeble coordinated beats were produced ultimately in the heart during the succeeding hour. In further attempts at rapid and *complete* resuscitation that have just been begun,* it is hoped, however, that such a mechanical obstacle will be done away with by causing the blood to flow through a long coil of small lead pipe surrounded by water kept at the proper temperature by a Bunsen burner. But even with the above-mentioned technical obstacles present, such promising results as I have obtained in maintaining the nervous system for such a long time after the shock, and in ultimately recovering the heart from fibrillation, clearly prove that with a sufficient supply of properly warmed defibrinated blood the nervous system can be kept alive until both the coordinated heart beat and the arrested natural circulation are resumed.

As has been mentioned previously, such a method, although applicable for laboratory experiments, is not, I regret to say, sufficiently simple and ever handy for the practical treatment of individuals after accidental electric shocks. Unfortunately, owing to the conditions present, only such a method of procedure will possibly produce the required resuscitation. Possibly it may be considered by some that the modified Ringer's artificial serum or 0.8 per cent. saline solution might be used instead of the defibrinated blood, but so far as my experience goes with such fluids they can not replace the defibrinated blood. In the numerous instances in which I tried them the respiratory centre promptly failed to recover.

Summary.—1. Industrial electric currents, which traverse the whole body transversely or longitudinally in sufficient intensity, kill because fibrillar contraction of the heart is produced and not, as has been hitherto surmised, by producing a total paralysis of that organ or by killing it outright.

2. Such currents neither kill the central nervous system outright nor paralyze it instantaneously. Death of the nervous system from such currents is due to the total anæmia following a sudden arrest of the circulation.

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* The satisfactory results of several preliminary experiments performed at that time, with rather imperfect apparatus for generating oscillatory currents of high potential, appear to indicate that the application of such a current to the fibrillating dog's heart, in conjunction with the perfusion of the coronary vessels with defibrinated blood (preferably undiluted with saline), very materially hastens the restoration of the coordinated heart beat.

3. In rare instances, when an electric current traverses only the cerebro-cervical portion of the nervous system in considerable intensity and for a considerable length of time, it may kill by asphyxia, consequent to a more or less complete inhibition of the respiratory movements, which occurs chiefly during the passage of the current. No existing facts warrant the conclusion that the medullary respiratory centre is paralyzed or killed in such conditions.

4. Industrial currents are practically non-lethal to frogs and turtles, as the condition of fibrillation quickly and spontaneously disappears from their hearts after the current has ceased to pass. Such animals, of course, can be killed by the very prolonged application of a current of moderate intensity, or by one of enormous voltage and large intensity.

5. Strong electrical currents applied to the surface of the skin affect the heart in the same manner as currents of less strength do when they are applied directly to the exposed heart.

6. It may be possible for an electric current of enormous intensity and electro-motive force to produce instantaneous death either by its disruptive action or by producing an instantaneous heat coagulation of the cellular constituents of the body. Industrial currents do not kill instantly, although as a result of their action death rapidly occurs. The experiences of individuals who have recovered from severe electric shock indicate that such a mode of death is not a painful one.

7. Spontaneous recovery of the dog's heart from fibrillation produced by strong currents is rare. Spontaneous recovery of the dog's heart from fibrillation and restoration of the arrested circulation after the external application of a strong current for two or three seconds appears not to exist.

8. Artificial recovery of the excised dog's heart from fibrillation induced by the external application of a strong electric current is possible.

9. Artificial recovery of the fibrillating heart of the dog, with restoration of the circulation and recovery of the nervous system, can be accomplished by the method described in this paper, provided the duration of the shock is short and the procedure is begun immediately after the cessation of the current.

A CASE OF

FIBRO-LIPOMA OF THE TONSIL,

WITH MICROSCOPIC SECTION.*

By THOMAS AMORY DE BLOIS, M. D.,
BOSTON.

On the morning of March 8th of the current year a male patient, James Battaglia, appeared at the Throat Department of the Boston City Hospital for treatment.

It was his first appearance, and he merely stated that a kind of a lump had been hanging down in his throat for some time—for several months he had noticed it. He was about forty years of age.

On examination a small tumor, of about the size of an undersized peanut, was seen hanging by rather a thin pedicle, which appeared to grow from a crypt in the patient's left tonsil, near the top.

On my showing this to Dr. Leland, he remarked that I had better jerk it out and see what it looked like, for we neither of us had ever seen anything similar in that locality. I said I would take it off with the loop. This I did. After making two applications of ten-per-cent. cocaine solution, I slipped the platinum loop over and then drew the growth out as much as I could with forceps. I pushed the loop up until it touched the tonsil, and, putting on the current, cut through the pedicle without pain, in two seconds.

The little tumor was sent to the pathological department and several sections were made, one of which I have the pleasure to present to the association, and it is now under that small microscope. I regret to say that the growth itself was lost.

The report from the pathological department states as follows:

S. 99–89.

James Battaglia. Throat Out-patient Department.

Polypoid growth from left tonsil. No subjective symptoms.

Microscopical examination shows a section bounded completely, except for one sixth of its periphery (the pedicle), by dermis. Within is a coarse, irregular network of fibrous tissue, the fibres of which are somewhat separated (œdematous), the network bearing, most deeply in the mass, areas of large fat globules.

Anatomical diagnosis, fibro-lipoma.

Lipomata have generally been considered rare growths. Mackenzie (vol. i, p. 93) states that large growths of fibrous structure of fatty tumors have also been met with in the region of the pharynx. Bernard Holt has recorded a case in which a fatty tumor, springing from the left side of the epiglottis and pharynx, hung down into the œsophagus for nine inches; and in two other cases cited it is stated that they appeared to be fibrous. Mackenzie apparently did not come across any.

In de Schweinitz and Randal's symposium, Jonathan Wright states that lipomata have been reported by Farlow in the *Transactions of the American Laryngological Association*, 1895.

In Burnett's symposium, by Lennox Browne, he quotes Bruns as reporting one case, in 1868, of lipoma of the pharynx.

Moritz Schmidt has seen one case in the pharynx on the upper limit of the posterior wall of the velum.

Those observed on the tongue are rich in fibrous tissue, and then are termed fibro-lipoma.

This gentleman further states that Kuenne has collated forty-nine cases, of which three were in the nose, thirty-six in the mouth, three in the fauces, and seven in the larynx. They are found mostly in old persons, and more in men than in women.

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* Read before the American Laryngological Association at its twenty-first annual congress.

Since Kuenne, Duerbeck has reported one on the tongue, and Vergely has reported multiple lipomata of the tongue developing unnoticed by the patient.

DRY HEAT OF HIGH DEGREE AS A THERAPEUTIC AGENT.

By C. E. SKINNER, M. D.,
NEW HAVEN, CONN.

Moist heat has been known in therapeutics as a sedative since the dawn of medical science. Its application has been so common and so uniformly useful in relieving pain in some degree that poulticing has been for centuries a routine measure even among domestic remedies for combating local inflammations. But its powers are very limited. Moist heat can not be continuously applied to the skin at a temperature much above 150° or 160° F. without scalding, and this degree of intensity is dissipated so rapidly by the circulation that it fails to penetrate the deeper tissues, and therefore can not produce marked or profound effects.

Dry heat, however, as is well known, can be borne at much higher temperatures—I have used it at 500° F.—with consequently greater penetrative power, if it can be kept dry; but here is where the difficulty has arisen. Heated substances, dry in themselves, induce perspiration when kept in contact with the skin, and when the perspiration has collected for a few seconds the heat, which was originally dry, becomes moist and can not then be borne by the patient.

This problem has recently been solved, however, by using air as the heat medium, and the apparatus made by Frank Betz & Company, of Chicago, has given me results which are extremely satisfactory. I am able with it to secure constant temperatures anywhere up to 500° F.; and that it is well under control is shown by the fact that, although constantly employing these extreme degrees of heat, I have blistered but one patient since I began to use it. I shall cite his case farther on in full (Case V), and therefore will only mention the accident here.

The apparatus consists essentially of an asbestos-lined metal cylinder, open at one end, thirty inches long, sixteen inches vertical diameter, and nine inches horizontal, the air contained in which is brought in contact with the part to be treated by heavy cloth attachments so constructed as to fit the different parts of the body—abdomen, back, shoulder, etc.—and a gasoline or Bunsen gas burner to heat the air contained in the cylinder. A high-temperature thermometer is conveniently placed for registering the degree of heat obtained. Dryness of the part being treated is maintained by wrapping it closely and smoothly in four or six thicknesses of loose-meshed Turkish toweling, which absorbs the perspiration as fast as it is excreted. The high temperature of the air which permeates the toweling immediately vaporizes the moisture absorbed therein, which diffuses into the air contained in the cylinder. A loosely meshed quality of toweling should be used, because the heavier, tightly woven grades hinder this diffusion, thus retaining the steam and superheated perspiration in that portion of the wrapping next the skin so long that blistering or scalding is liable to occur.

It is necessary to change the air in the cylinder with sufficient frequency to prevent its saturation with the vaporized perspiration reaching a point where free, rapid interchange of vapor between it and the wrappings would be interfered with, and this is provided for by a valve in the top. Opening this permits the moisture-laden air to escape, and its place to be taken by a fresh supply which enters through an opening in the bottom by which the heat from the burner is applied. The air is thus heated at the same time that it is introduced. It has become my custom to change the air about once every ten minutes, but the interval will vary according to the weather and the idiosyncrasies of the individual under treatment as to the quantity of sweat which he excretes. On very damp days, and when the patient perspires easily and freely, it will require shortening, because the greater percentage of humidity already existing in the air introduced, or the greater amount being thrown off by the patient, will cause the point of excessive saturation to be reached more quickly than on dry days, or with a "dry" patient, and *vice versa*.

When excessive saturation does occur, the patient will quickly inform you that "it is burning me." Under these circumstances time should not be lost in waiting for the opened valve to effect the necessary change of air, because if that "burning" is not immediately relieved it will increase rapidly to an excruciating intensity, and scalding is liable to follow which will render the parts extremely sensitive for many hours, but the attachment should be removed from the cylinder and the supersaturated air allowed to rush out at once. Meanwhile introduce the hand into the cylinder, press the toweling intermittently down upon the part complained of, and when the burning sensation has passed away replace the attachment and use the valve more often thereafter. This "burning" sensation is also caused by another condition—viz., a failure to secure even and complete contact of the toweling and the skin, as when a wrinkle forms. Perspiration collects on the area of skin not in contact with the absorbent, its temperature rapidly rises toward the boiling point, and blisters if not removed. It is particularly well to bear this in mind in reference to the toes when treating the feet, as most people unconsciously wriggle these members and disarrange the wrappings. Pressing the separated toweling down upon the suffering area of skin produces immediate absorption of the boiling sweat and relief.

My experience thus far has led me to conclude that the most satisfactory results follow treatments which last at least one hour, with a degree of heat not less than 350° F.; but it is necessary to continue the treatment long enough and push the temperature high enough for the patient to feel that the agent has penetrated right down to the sore spot. He must feel that it is being "touched" by the heat, whether it takes one or two hours and 350° or 500°. It is unnecessary to say that keeping the parts at rest is a vast help in overcoming their disability; but, as will be seen later, abeyance of function is not always a prime necessity.

Although somewhat cumbersome, the apparatus can be transported to the patient's bedside by having a suitable cabinet made to contain it, a point of importance in view of its usefulness in some acute diseases which will be mentioned later. For heating I use illuminating gas through a Bunsen burner in my operating room, and prefer gas under all circumstances; but in some houses the flow of gas is not strong enough and in some others there is no gas at all, so that the gasoline attachment becomes a necessity in treating many patients at their homes.

Although dry hot air has been with us but a short time, it has proved itself a therapeutic agent whose value can not be overestimated, and I know of no measure or remedy which can fully take its place. My experience with it extends over the past year, and in combating the conditions in which I have ascertained it to be indicated, speculation as to the result has long ceased to be an annoyance. Its almost uniform success justifies a strong belief that its future is pregnant with happy possibilities, but it needs study and development. For the relief of pain in accessible parts it has no equal, and it accomplishes this beneficent result without any disagreeable or deleterious effects either at the time of application or subsequently. Under its influence the pain simply grows less and less, the patient quieter and quieter, until in from fifteen to thirty minutes it has entirely disappeared. I have had my attention arrested by a gentle snore from a patient under treatment who, half an hour before, and for twenty-four hours previous to that, had been writhing in constant agony (Case VI.) The pain always returns after some time, the period of relief varying from four to fourteen hours; but the recurrence is ordinarily less severe than before and is controlled just as easily as at first. The heat may be applied as frequently as the pain returns, and this can be kept up indefinitely.

The agent we are considering has in my practice most frequently found a field for usefulness in rheumatism, and, so far as I have been able to ascertain, this is also the experience of others. The reason for this can probably be found in the fact that rheumatism is a very common disease, an extremely painful disease, and not infrequently a most exasperatingly obstinate disease, a combination of characteristics sufficient to prepare a warm welcome for any new measure which promises better results than those ordinarily attained. I have been specially interested in the disease for several years, and it was in the hope of increasing my ability to cope with its intractable aspects that I first investigated this element of treatment. The palliating influence of mild degrees of heat on the pain in this disease is a matter of common knowledge, and I have frequently had mechanics with rheumatic shoulders, backs, or hips tell me that a common practice with them on arriving at the shop, before going to work, was to heat the complaining part by leaning against a steam pipe. The procedure would give them considerable comfort. If this low degree of heat was helpful, a very high degree might give strong results. As we shall see, the inference was confirmed by subsequent experience.

I will say here that I have never observed that hot air, relied upon alone to the exclusion of drugs and dietary regulation, particularly in the matter of alcoholic beverages, possessed any radically *curative* effect upon this disease. Temporary relief from pain seems here to be its limit, unaided. The case needs to be cared for just the same in every way as if hot air were not being used at all. What it does appear to do, aside from relieving the pain, is to induce a metabolic activity in the tissues affected by reason of which remedies act with greatly increased power, and, which is of as much if not more importance, with certainty. Their effects rapidly become apparent upon the patient and recovery of the suffering structures proceeds in a uniform and progressive manner, which is most gratifying after having watched the case stand most annoyingly still or grow worse for two or three weeks.

I have selected the following cases for citation as being strongly illustrative of what hot air will do in rheumatism. Antirrheumatic drugs, selected according to indication, were administered in every case synchronously with the hot air, but, as the drug treatment of the disease does not come within the scope of this article, I shall mention them only when force of illustration demands it:

CASE I. *Acute Inflammatory Rheumatism.*—I was called to see Miss A. F., sixteen years of age, November 25, 1898. For the preceding four days she had been suffering with severe pains in the left ankle and great toe joint, which had increased rapidly in intensity during the preceding twenty-four hours. Had been unable to get any sleep or rest the preceding night. Great toe joint was much swollen and exquisitely tender to touch; ankle slightly swollen, but very sensitive. Patient had sustained a severe attack of inflammatory rheumatism ten years before, which had involved the cardiac valves, and she had carried the murmurs up to within six months before this time. Both parents were rheumatic. Hot air was applied that afternoon. In fifteen minutes the pain had disappeared entirely, and for the first time in forty-eight hours the patient was comfortable and resting quietly.

November 26th, P. M.—Patient slept all night. Pain returned at intervals, but only as slight twinges.

Swelling in ankle has entirely subsided; it is nearly gone from great toe joint, and the patient is limping about with a slipper on. Considerable soreness still exists in the parts when manipulated. Hot air administered again. In view of the marked improvement manifested I decided to discontinue the treatments, and requested the patient to report at my office in two days if able to walk, and to let me know if anything went wrong in the meantime.

29th.—Patient called at my office, reporting that she had had no pain since last treatment. Soreness had entirely disappeared on the day following it, and she had been out walking with her shoes on as usual. This patient required but two treatments and was entirely well in three days, being the shortest case on my records. Its antithesis is exhibited in—

Case II.—A man, forty-five years old, whom I was asked to see February 28, 1899. He had had inflammatory rheumatism off and on all his life, but the last attack preceding this one had occurred in 1891, at which time he was ill for three months, both ankles and the right great toe joint being involved. His father had suffered frequently and severely with inflammatory rheumatism and his mother was gouty. When I was called he had been suffering for two weeks, the left hip being the part involved, and during this time he informed me that he had been taking salophen and alkalithia constantly, with no result. The symptoms had increased rapidly during the preceding two days, and he had had no sleep for twenty-four and very little for forty-eight hours. Joint was extremely sensitive to manipulation and pressure. Hot air was applied and pain was entirely gone in twenty minutes. At conclusion of treatment the joint could be manipulated within certain limits with so little discomfort that I conceived strong hopes of having encountered another case like the foregoing, and requested the patient to call at my office the following morning if he was able.

To my gratification, he appeared at the time appointed, March 1st, reporting that he had experienced no pain after the treatment of the preceding day until this morning on arising from bed, but that since then it had been slightly but constantly present. Patient was on his way to business, and had "only dropped in to let me know that he was about all right." I persuaded him to allow me to treat him again, but he would not relinquish his intention of attending to his business. I treated him for an hour, with entire relief of pain as before, and he promised to report the next day.

March 2d.—Patient called this morning, informing me that half an hour after leaving my office yesterday he had suffered from an acute attack of pain, lasting about ten minutes, which had then subsided, and he had felt it no more until this morning, when for half an hour it was quite severe. Another remonstrance as to his continuing to perform his business duties was met by the assertion that to stop at this time would entail financial loss that he was unwilling to sustain, and that as long as he continued as comfortable and free from pain as he was then he would rather keep about his business and take a longer time for his recovery. He was treated and requested to report the next day.

3d.—No pain since last treatment, but feels a dull soreness in parts, which is growing steadily less. Hot air was again administered. Patient desired to stop his salophen, but it is unnecessary to say was ordered to continue. He did not call again until March 8th, when he reported having had slight twinges of pain always in the morning on rising and occasionally during the day, but of steadily decreasing severity since the last treatment. This morning, for the first time since the attack began, he had been entirely free from pain of any sort. He laughingly derided my having desired to keep him in bed and said, as I supposed in joke, that he wasn't "going to take any more of those powders."

11th.—Patient continued to feel so well after his last call that he had carried out his threat of stopping the salophen, and yesterday he began to suffer again. Resumed salophen, and toward evening grew more comfortable, but this morning pain is again quite severe. Hot air gave its customary immediate relief, but patient was going out of town and could not call again for treatment until two days after.

13th.—Reports freedom from pain all day on the 11th, but it was present considerably yesterday and this morning. Hot air administered with the usual happy results.

14th.—Slipped on a curbstone while running to catch a car yesterday, wrenching the affected hip badly. Suffered excruciating pain for an hour, which then subsided, leaving intense soreness and throbbing, which are present this morning. Treated with hot air, but pain, for the first and only time, was not entirely relieved, and patient left my operating room with a slight limp.

15th.—Appeared at my office at 7.30 A. M., reporting that pain returned quite severely four hours after treatment, and has stayed with him pretty sharply ever since. Insists that he can not leave his business and remain quiet at home; and I suggested that he be treated three times to-day, to which he consented. I treated him at 9 A. M., at 2 P. M., and at 7 P. M., with the result that he kept about his business and had practically no pain.

16th.—Came to my office at 9 A. M., reporting that he had had no pain until eight o'clock after rising from bed, and then only slight dull twinges. Administered hot air at 9 A. M. with the usual satisfactory result, and requested him to call again for treatment at two in the afternoon. He did so, informing me that he had had no pain at all since morning, and expressed himself as feeling better generally and locally than at any time since the attack began. Ordered him to come again in the evening if he felt the slightest return of the pain. I did not see him again for a week.

On March 23d he came to my office early in the afternoon, supporting his right arm with his left, suffering intensely in his right shoulder, which he said had commenced about 11 A. M. The slightest movement of the affected joint forced him to cry out with pain, and when I had succeeded, with great difficulty and the utmost care and gentleness, in removing his clothing preparatory to treatment, he was shaking like a leaf. I applied hot air with the usual result. Pain was relieved in ten minutes. At the end of the treatment he could move his arm sufficiently to get into his clothing without assistance, was perfectly free from pain, but could not raise his elbow to within more than three inches of the level of his shoulder. He had had no trouble with the hip since last treatment, and I will say here that the recovery of the joint was complete, and remained so. I directed him to call again for treatment in the evening. At that time he was suffering slightly, but was able to remove his clothing for treatment without assistance.

Hot air was administered and directions were given to call again next morning if he was in any pain at that time. I did not see him again until March 25th, when he called to tell me that he had had some slight twinges of pain during the night following the last treatment, but had remained free from it ever since. I requested him to call immediately if any more symptoms appeared, and to continue the salophen for two weeks. Five days afterward, on March 30th, he called, complaining of a dull sickening aching in the right shoulder, which I dissipated with one treatment, and that was the last of the trouble.

This case is very instructive. It illustrates forcibly the remarkable power of hot air in rapidly alleviating rheumatic pain; it emphasizes the necessity of accompanying the treatments with internal medication, as shown by the severe return of symptoms in the same old place on March 10th and 11th, after the salophen had been prematurely discontinued; and when we consider that the total length of time during which this patient was under treatment—viz., one month—is far longer than the period required for the recovery of any other case of acute rheumatism which I have submitted to this treatment, I consider that it exemplifies in a very gratifying manner the power of hot air to shorten the duration of the disease. Here was a case in active eruption in a man of a strongly rheumatic diathesis, who kept up and about his business all the time, and yet in spite of this utter and constant disregard of one of the prime essentials to be secured in the treatment of inflamed joints—viz., rest—the attack was extinguished completely in one short month. Not only that, but the patient has been kept entirely free from pain the vastly greater part of the time during that month, an achievement which could not be claimed for any other treatment with which I am acquainted, however perfect may have been the rest secured. There is no question in my mind that the attack would have ended much sooner if I could have kept him quiet.

(*To be continued.*)

ALCOHOLISM.

By CHARLES J. DOUGLAS, M. D.,

BOSTON.

There are few chronic diseases that will more surely yield to proper medical treatment than alcoholism. Proper treatment can be given, however, only when the patient has been removed from his home and customary surroundings. Any practitioner who has attempted to treat alcoholics at their homes will admit that it is practically impossible to more than temporarily relieve such patients. Still, a removal may be made that will be to the patient's disadvantage. Confinement in a jail is worse than no treatment at all, and an insane asylum is almost as objectionable. The so-called "homes" for inebriates are another class of worse than useless institutions, in which an intoxicated man is thrown into a cell and allowed to rave without stimulants till sober, or till death relieves his suffering. A humane man would not treat a dog with such barbarity. The sudden withdrawal of alcoholic liquors in this way not only causes the patient intense suffering, but, after a protracted spree, is the principal cause of delirium tremens and death. The withdrawal of alcohol should be gradual, its place being temporarily taken by such remedies as hydrastis or capsicum, or other indicated remedies. I have followed this course for years in the treatment of many hundreds of alcoholics, and my cases of delirium tremens never go beyond the first symptoms, and I have never had a death. To successfully treat alcoholism the patient should be removed to a sanitarium where the treatment of such ailments is made a specialty. Here he can be under the constant care and observation, day and night, of physicians and attendants whose special training and experience enable them to adopt the best methods in the management of the changing conditions of this peculiar disease. Fortunately, there are now sanitariums of this kind in many parts of the United States. I, of course, do not here have reference to the quack "cures" in which secret nostrums are dispensed in a routine way by a physician who knows nothing of their composition. No self-respecting practitioner can take his patients to such an institution. But I refer to sanitaria that are ethically conducted, to which a physician can take his alcoholic cases and receive any information he desires regarding the remedies employed in the treatment of his patients, and where he will be cordially welcomed as a consultant by the house physician.

In treating of the pathology of this disease it is customary to enumerate the abnormities found in the stomach, liver, bowels, kidneys, etc. But the disease of alcoholism stands quite apart from these ailments. The patient may or may not have gastritis or enteritis or nephritis, but in all cases he will have an abnormal condition of the nervous system that produces either a perpetual or a periodic demand for the drug action of alcohol. Hence alcoholism *per se* is a disease of the nervous system. He who can drink moderately without ever becoming intoxicated may have the drinking habit, but he has not acquired the disease. This, however, does not prove that he possesses superior intelligence or will power. It only indicates that his nervous system is less susceptible than others to the poisonous action of alcohol. It is purely a physical difference that distinguishes the moderate drinker from the helpless drunkard. Professor Atwater's dictum that two ounces of alcohol a day is a food, and more than that is a poison, may be true in some individuals, but as a statement of universal law it is absurdly false. I have a patient now under treatment to whom two ounces of alcohol is such an active poison as to transform him from a clear-headed business man into an irresponsible automaton.

The ætiology, symptoms, and diagnosis of alcoholism are well known, but its treatment deserves far more attention than it has ever received. The advice given in some text-books appears to be of a purely theoretical character, unsupported by sufficient practical experience. Much of it is certainly very erroneous. In the acute stages, sleep and nourishment are of the first importance, especially if the patient has been on a protracted spree, or is showing signs of delirium tremens. If the stomach is too weak to retain more substantial food, an excellent aliment is hot malted milk. But the best food in this stage of the disease is eggnog, if the stomach will retain it, and it usually will. Beat up one egg in a tumbler, nearly fill the glass with milk, and add one or two ounces of whisky. Sugar may be added if desired, but sweets are usually distasteful to a patient in this condition. I believe this combination to be the *ne plus ultra* of foods in acute alcoholism. In many cases, however, the patient refuses all nutriment till after he has been made to sleep.

A very satisfactory hypnotic in this disease is a mixture of bromide of potassium and chloral in equal parts. This should be given in several small doses, the effect of each dose being carefully noted. Of the coal-tar products trional is the best hypnotic, but it must be given in large doses. Suggestion, as practised by the school of Nancy, is occasionally useful in promoting sleep. I never use morphine unless there is some unusual complication.

There is, however, one harmless remedy that will produce sleep in a few minutes, even when the patient is suffering with the wildest delirium. That remedy is apomorphine. I inject subcutaneously just enough to produce slight nausea, but not enough to cause vomiting. One thirtieth of a grain is the average quantity required, but individual susceptibility to this drug greatly varies. In a few minutes after administering the remedy perspiration appears and the patient voluntarily lies down, when a sound and restful sleep immediately follows. This sleep lasts at least an hour or two, and, if other sedatives are previously given, it will usually last six or eight hours. The use of apomorphine in this manner and for this purpose is, I believe, original with me. While its value has remained so long unrecognized by the profession, yet in point of fact there is no hypnotic in our materia medica that is at once so prompt, so safe, and so sure. It is of special value in all forms of mania, regardless of the cause. It may also be given in full emetic doses in many cases of alcoholism with marked benefit. I have frequently had such patients express gratitude for the great relief afforded by this emetic. It seems to frequently act as almost a specific in relieving the alcoholic craving.

After the patient has recovered from the acute symptoms, he should have a course of tonic treatment covering a period of several weeks. The limits of this article will not permit a discussion of all the remedies that should be employed in the varying states of this erratic disease. An excellent one, if properly and judiciously used in connection with other remedies, is the nitrate of strychnine. It may be given, however, in much smaller doses than the text-books usually recommend. Potter, in his *Materia Medica,* advises the hypodermic use of this remedy. He says: "It removes the craving for stimulants, counteracting the vasomotor paralysis, to which most of the injurious effects of alcohol are due, and is probably in other respects a true antagonist to the action of that narcotic poison on the human system."

Dr. Portugaloff, of Russia, under date of September 2, 1891, writes as follows: "I have first and foremost to state that the use of strychnine in the treatment of alcoholism is no discovery of mine. In all the articles I have ever written upon the subject I have always pointed out that the credit of the discovery belongs to the English and French doctors, Luton and Dujardin Beaumetz. Convinced that all forms of drunkenness are but forms of disease, with perhaps a basis of vice, I have, during the period of five years, treated about five hundred patients suffering from different forms of alcoholism by hypodermic injections of strychnine. . . . I do not order the patient at once to discontinue drinking. I prefer that he should voluntarily leave it off, and that alcohol should become distasteful to him. . . . Then I have cases of relapse—patients who once a year return to their old bad habits, but who, on such occasions, always come to me for a repetition of the treatment, which invariably sets them right again for another year. . . . I have always felt sure that if in obstinate cases the patient could be isolated, and all possibility of obtaining alcohol removed—which would be easy in a 'sanitarium for inebriates'—cure would certainly follow."

There are several reasons why the hypodermic method here recommended by Dr. Portugaloff and Dr. Potter is preferable to the administration of remedies exclusively by the mouth. The stomach is less burdened by drugs. The remedy goes directly into the circulation without being subjected to the action of the digestive fluids. The dosage can be regulated with great accuracy. The remedial action is more prompt. It brings the patient face to face with the physician several times a day.

It is remarkable how few physicians know how to properly give a hypodermic injection. It should not hurt nor scarcely be felt by the patient. It should never produce an abscess. It should not produce a temporary subcutaneous swelling. The operation should be performed so quickly that five can not be counted between the insertion and withdrawal of the needle. The physician who fails in any of these respects has not yet learned the art of administering a hypodermic injection.

As early as the sixteenth century gold was recommended as a remedy for alcoholism, and recently extraordinary virtue has been alleged for it. I have not, however, found that it possesses the marvelous properties attributed to it by the public, although it is probably not devoid of merit.

One or more of the bitter tonics should be employed during the entire period of convalescence. With good appetite and digestion and restful sleep the patient will rapidly improve. The aim of the entire treatment should be to build up his general health, so that when he returns to his home he will be in the best possible condition.

Cheerful and hopeful surroundings, in the company of others who are under similar treatment, are conditions of great value. It is desirable that an earnest and purposeful spirit should be cultivated. It has been our custom for several years at our sanitarium here in Boston to begin each day with a simple service of songs and reading, lasting about ten minutes. I consider the *esprit de corps* of a properly regulated sanitarium is of great importance in the treatment of this disease.

The rescue of humanity from the physical, mental, and moral ruin resulting from alcoholism and other drug addictions devolves not upon the moralist but upon the physician. This is the medical man's burden, and the enlightenment of the future will hold him responsible if he does not earnestly take it up.

REPORT OF A CASE OF

ABSCESS ON THE ANTERIOR SURFACE OF THE EPIGLOTTIS.

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Bosworth states that perichondritis of the epiglottis does not result in an abscess with necrosis, but in an ulcerative action.

The unusual condition of abscess of the anterior or superior surface of the epiglottis presented itself in a young man of twenty-four years of age, a laborer, undersized and not very well nourished. He complained of pain and tenderness just above the larynx and a rapidly increasing dyspnœa. Soreness of the throat had begun about a week before I saw him. He had had slight chill, headache, and malaise. During the three preceding days he had been unable to eat, as deglutition was extremely painful. A rapidly increasing dyspnœa had distressed him so greatly that the preceding night he had been unable to lie down.

Inspection showed fauces and pharynx slightly inflamed. The epiglottis was forced backward and down so as to almost completely close the opening to the larynx. Inspiration was more difficult than expiration, as the former drew the epiglottis down more closely over the orifice. This position of the epiglottis was caused by a well-defined rounded tumor about half an inch in diameter occupying the middle of the anterior surface of the epiglottis and extending almost to the tip. This tumor pressed on the slightly inflamed and hypertrophied glands on the base of the tongue. There was considerable swelling, redness, and congestion in the surrounding parts. The interior of the larynx could not be seen at this time, but when it came in view two or three days later there was nothing to cause the dyspnœa. As it was, respiration was relieved somewhat by extending the tongue. Pressure upon the tongue increased the pain and dyspnœa.

The tumor was incised and nearly a drachm of yellow, foul-smelling pus was discharged. Dyspnœa was greatly relieved at once, and the other symptoms began to rapidly subside. Probing indicated that the cartilage was somewhat destroyed, but not sufficient to perforate it. After healing, the surface was dimpled and the lateral curvature flattened and the tip bent forward. In about ten days the epiglottis had returned to its normal position. The patient gave no history of rheumatism, excessive drinking, or eating of hot or irritating foods. He, however, had been subject to slight sore throats during cold weather, but never had experienced a similar attack.

The case proves conclusively that perichondritis does result in abscess and necrosis of the cartilage of the epiglottis.

311 Cumberland Street.

PALATABLE QUININE MIXTURE FOR CHILDREN.

By W. J. GREANELLÉ, M. D.

Having had occasion to prescribe quinine repeatedly for young children, and being dissatisfied with the combination with syrupus yerbæ santæ, I have made a number of experiments with a view to obtaining a pleasant and acceptable quinine preparation which could be continuously administered to children without their objection.

I give below the details for the preparation of a "child's quinine mixture" which I find not only to be readily taken by children but also serviceable as a bribe to be given after unpleasant medicines, such as stronger solutions of quinine.

The mixture is designed as a tonic and malarial prophylactic for children living in malarious sections. It will serve for active medication in acute cases of malarial disease in children of three years or younger by giving the larger dose at hourly intervals.

I find that children literally cry for it, and that it has frequently served as an excellent bribe, to be given immediately after a simple solution of quinine hydrochloride in water when large doses of the drug are necessary. A teaspoonful of water carrying two or three grains of quinine muriate will be readily taken by any child, with "a spoonful of pink medicine right after." Those who have little patients in large numbers will appreciate this.

(1) ℞ Quinine hydrochlorate ..	gr. v–gr. x;
Alcohol	ʒj.

M.

(2) ℞ Oil of cinnamon, Oil of anise,	each.. ♏ xxx–xl;
Magnesia	q. s.;
Water	℥j.

M. Let stand for some hours; filter.

(3) Mix 1 and 2 and add—

Simple syrup	℥iij;
Carmin or cochineal solution...	gtt. v.

Dose, one or two drachms, as directed.

Saccharin in small quantity helps to disguise the larger dose of quinine.

Small doses of Fowler's solution may be added, if indicated, or sodium bromide for children made irritable by quinine.

Druggists will make this in quantity and keep it in stock if requested. It is simple, easily made, and inexpensive. Moreover, children like it.

UNIVERSITY HEIGHTS.

Therapeutical Notes.

A Clyster for Convulsions.—*Riforma medica* for August 1st ascribes the following to Simon:

℞ Musk	3	grains;
Camphor	15	"
Hydrate of chloral	7½ to 22½	"
Yolk of one egg;		
Water	1,500	"

M. To be taken at one time.

Paraform for Warts.—Meuse (*Dermatologische Centralblatt*, April; *Medical Review*, September) recommends paraform for the treatment of warts on account of its penetrative power. He has also used it in papular syphilides and in psoriasis palmaris. The drug is made up with collodion (ten per cent.). Usually after two or three days the epidermis peels off.

Strontium Bromide and Iodide.—Gillespie (cited in the *Klinisch-therapeutische Wochenschrift* for September 3d), who finds these compounds far less apt to produce toxic effects than the potassium salts, gives the following formula:

℞ Strontium bromide	6	parts;
Strontium iodide	12	"
Distilled water	40	"
Peppermint water, Syrup of peppermint, each....	20	"

M. S.: A teaspoonful three times a day.

Aspidium Spinulosum as a Tæniacide.—*Aspidium spinulosum* so closely resembles *Aspidium filix mas*, the official male fern, that some botanists think the two plants should be looked upon as constituting but a single species. The first-mentioned variety is much more abundant than the official plant in some districts, and Laurén (*Therapeutische Monatshefte*, April; *Fortschritte der Medicin*, September 6th) recommends the use of an ethereal extract of its rhizomes as a remedy for tapeworm, in doses of from forty-five to sixty grains. He adds that it has long been employed in Finland, and that it may be had of Merck, the Darmstadt chemist.

Antispasmodic Draught.—*Riforma medica* for August 16th gives the following:

℞ Alcoholate of aconite root, Tincture of belladonna, of each,	10	drops;
Cherry-laurel water	150	grains;
Orange-flower water	900	"
Croton tiglium water	900	"
Syrup	450	"

M. A soupspoonful hourly.

A Mixture for Excessive Acidity of the Stomach.—The *Settimana medica* for August 5th gives the following formula:

℞ Sodium sulphate, Sodium chloride, each	30	parts;
Calcium sulphate	5	"
Sodium carbonate	25	"
Sodium borate	10	"

M. A coffeespoonful three times a day, before eating.

The Treatment of Epistaxis.—Range (*Wiener medicinische Blätter*, August 17th; *Klinisch-therapeutische Wochenschrift*, September 3d) calls attention to the fact that the source of the hæmorrhage is almost always quite limited and situated well forward. When this is the case, compression suffices to stop it. In addition, one may inject a five- to ten-per-cent. solution of gelatin in artificial serum, or apply tampons wet with such a solution. If it is found necessary to plug the posterior nares, the tampon should not be left in place for more than twenty-four hours.

For Syphilitic Alopecia.—*Riforma medica* for August 23d ascribes the following to Gaucher. The hair should be kept short, and frequent applications of the following lotion made to the head:

℞ Corrosive sublimate	3	grains;
Hydrate of chloral	60	"
Resorcin	30	"
Castor oil	15	"
Alcohol at 90°..............	3,000	"

M.

At the same time friction should be made with the following ointment:

℞ Calomel	45	grains;
Vaseline	900	"
Salicylic acid	9	"

M.

Or the following:

℞ Precipitated sulphur	45	grains;
Vaseline	900	"

M.

This latter ointment is to be prepared when the alopecia is accompanied by seborrhœa and pityriasis of the hairy scalp.

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NEW YORK, SATURDAY, OCTOBER 28, 1899.

AN ATTACK ON THE OCULISTS OF NEW YORK.

In our department of Miscellany we reproduce from last Saturday's *Evening Post* an article that seems to call for comment. We print it under the heading which serves also for this article, but the *Post* saw fit to give it these headlines: Oculists' Commissions. A Secret Division of Opticians' Profits. Serious Charges by One of the Latter—Excessive Cost of Glasses to Poor Patients—Cases Cited to Prove the Accusations. Almost the entire article is a quoted declaration purporting to have been made by "a prominent Maiden Lane optician," but the opening sentence is the *Post's* own statement that "there is a tacit understanding between some practitioners who 'give their services free' at the free ophthalmic hospitals and certain opticians for the division of profits on the glasses prescribed by one and sold by the other to the indigent patient." The *Post* may think that its use of the expression "some practitioners" clears it of any charge that may be made to the effect that it has brought an unwarrantable accusation against that large body of honorable men, the junior oculists of New York, for it is about them that the anonymous optician harangues, since he says that "the leading professors at these free institutions are salaried and above the taint of reproach in professional ethics." If the *Post* does entertain any such view in justification of its own course, we think the medical profession in general will not consider the loophole as wide enough to acquit the paper of the charge of having decked out a trumpery slander with headlines and an introductory statement calculated to injure many young medical men in the eyes of the public.

We can not deny that there are black sheep in the medical profession. They exist among all classes of men. We have no knowledge that there is on the staff of any hospital in New York, ophthalmic or of any other character, a man so low as to conspire with tradesmen to fleece the poor, but we can not say that there is not. This much, however, we have no hesitation in saying, that if such a man's dishonest acts were to come to the knowledge of his professional brethren he would be dismissed from his place and ostracized at once. We feel warranted in affirming, further, that such practices as the *Post* implies are common, if they are resorted to at all, are so rare as to constitute but the exception that proves the rule of the uprightness of physicians in their dealings with the poor. As for the "prominent Maiden Lane optician's" statements, they bear internal evidence of inaccuracy in the sentence we have already quoted, to the effect that "the leading professors" are "salaried." Unfortunately, that delusion is general among the poor and prevails to some extent among the community at large, and it works to the discredit of the profession. We do not need to say—for all our readers must know it—that the men to whom the optician has reference are not "salaried." This "prominent optician" professes to be interested in a movement to detect and expose individual instances of the vile practice which he says is general. Let him do that and he will be regarded as a benefactor to the medical profession, but he will accomplish nothing but mischief by wholesale allegations such as those to which the *Post* devotes almost a column of its space.

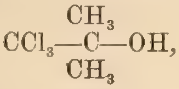
THE MEDICAL CARE OF OUR FORCES IN THE PHILIPPINES.

It was to be expected that the new secretary of war would promptly enter upon vigorous and judicious measures for suppressing armed opposition to our domination in the Philippine Islands, and that he would show adequate appreciation of the vital importance of a sufficient corps of medical officers having all needed assistance in the way of nurses, hospital stewards, and field helpers, together with ample hospital accommodations, abundant supplies, and sufficient means of transporting the sick and wounded. These expectations are quite fulfilled, according to press reports from Washington. A correspondent of the *Sun* lately sent to that paper a dispatch giving the substance of an interview with Secretary Root in which the secretary gave evidence of having given very detailed consideration to the provisions for the medical needs of our men in the Philippines.

It appears from Colonel Woodhull's reports that the hospitals are not now overcrowded; there are accommodations for over 2,000 patients, and only 1,847 beds are occupied, including those of convalescents. But this margin, which would appear narrow in the season of regular campaigning, is to be vastly increased to meet any possible requirements that the active operations contemplated on the subsidence of the floods may involve. Provision for the care of 8,000 sick and wounded is well under way, and the transports have taken generous hospital supplies to Manila. The hospital corps men now number nearly 2,000, and more than 1,000 others will be added before the opening of active hostilities. Besides the land hospitals, the hospital ships *Missouri* and *Relief*, now on their way to Manila, are to be used as floating hospitals. Together, they will accommodate 600 patients.

In the matter of nurses, too, the government is not lagging. Some weeks ago we expressed our confidence that Colonel Woodhull's requisition would be honored, and so it turns out. Thirty women nurses will sail from New York in a few days from now. That was the number that Colonel Woodhull asked for, together with twenty medical officers, but he is reported to have added: "Can use twice as many." Thirteen commissioned medical officers and forty acting assistant surgeons were already either on the way to the Philippines or under orders to proceed thither, in addition to the medical officers of the volunteer regiments. Colonel Woodhull's hint, "Can use twice as many," applies, we take it, to the nurses as well as to the medical officers, and we do not doubt that more women nurses will be sent in time to be of service when hostilities have been carried far enough to make them really needed.

CHLORETONE AS A HYPNOTIC AND ANÆSTHETIC.

The hypnotics, analgetics, and anæsthetics of recent years are certainly many, but they can not become too numerous, for each one seems to have some distinctive advantage of its own, making it the most eligible under certain circumstances. One of the newest ones is chloretone, concerning which there is an important article in the *Journal of the American Medical Association* for September 23d, by Dr. E. M. Houghton, of the Detroit College of Medicine, and Dr. T. B. Aldrich, late of the Johns Hopkins University. The substance of which the authors treat is known by several names, but they have chosen to call it chloretone to distinguish it from acetone chloroform (chloroform made from acetone). Following Willgerodt, they give it the formula  $\mathrm{CCl_3{-}\overset{CH_3}{\underset{CH_3}{C}}{-}OH}$, and explain that it is formed when caustic potash is added slowly to a mixture of equal parts by weight of chloroform and acetone, and is a white crystalline compound of a camphoraceous odor.

Thus far the authors' use of chloretone has been only experimental, but it has extended over a period long enough to enable them to speak of its action with a considerable amount of authority. They have given it by the mouth, by the rectum, beneath the skin, by intravenous injection, and by injection into the peritoneal cavity, also by confining the subject of the experiment in a tight box where it was compelled to inspire air impregnated with the vapor arising from the drug, and they find that it is capable of producing all degrees of hypnosis up to complete anæsthesia, lasting from a few hours to several days, according to the amount of it that is absorbed into the system. Like all other drugs of its class, it is not devoid of dangerous properties; excessive doses prove fatal.

Besides its action on the central nervous system, chloretone is of decided value as a local anæsthetic, resembling cocaine in this respect, and the small amounts required to produce insensibility of a part are quite harmless. In cases of lacerated wounds, burns, and other injuries of a painful nature it is very efficacious in allaying pain when the injured part is bathed freely with a watery solution. It has been found valuable, too, as an antemetic, and the authors suggest that it may be found useful in preventing or controlling seasickness and the vomiting of pregnancy. As much as sixty grains has been given in a single dose without producing untoward symptoms, but from six to twenty grains, followed by a drink of water or milk, seem to be quite enough to produce the desired results. The authors hint that chloretone may prove a useful general anæsthetic when administered in large doses, and that, given before the administration of ether or chloroform, it may prevent the annoying vomiting that so often occurs when a patient is anæsthetized.

ALCOHOLISM AND THE FUNCTION OF LACTATION.

A new evil of alcoholism seems to have been unearthed by Professor von Bunge. At the recent annual meeting of the Union of Abstaining German-speaking Physicians (*Deutsche Medizinal-Zeitung*, September 25th) he presented statistics which, while he did not consider them as conclusive, showed a remarkable correspondence between the prevalence of habitual tippling among women and their inability to nurse their children.

THE TREATMENT OF INSOMNIA.

Impairment of the normal ability to sleep, often amounting to protracted and exhausting insomnia, not only gives rise to much distress, but also undoubtedly aggravates the trouble on which it generally depends, neurasthenia. Wunderlich (*Sammlung klinischer Vorträge*, No. 239; *Fortschritte der Medicin*, September 20th) thinks that two thirds of all cases of nervous insomnia are due to neurasthenia. In its treatment, he properly insists, hypnotic drugs should be avoided as far as possible. He thinks trional and sulphonal are the best of them. Under no circumstances should the use of morphine be allowed. If drugs are to be used at all, it is generally best to prescribe the bromides in diminishing doses, beginning with forty-five grains at bedtime. If, however, there are phenomena of sensory irritation, perhaps antipyrine, lactophenine, or phenacetine may also be indicated. That form in which the sleep is broken often depends on excessive gastric secretion and acidity of the gastric juice; for this sodium bicarbonate and bismuth may be given. But the measures most generally appropriate are hygienic and dietetic. In particular, the cold pack is highly effective. It must not be so prolonged as to bring on sweating, but should be terminated when the patient begins to feel warm and the pulse increases in frequency.

"THE BREADTH OF AN ATOM."

SPEAKING of a new "school" of geometry projected by a person who seeks to substitute for the accepted ratio of the diameter of a circle to the circumference one that he maintains is the right one, the *Evening Post* remarks that by extending the usual fraction to 707 decimal places one may so closely approximate the true ratio that "in creating a universe on it the largest possible circle would have an error of less than the breadth of an atom."

CATALEPTOID LETHARGY WITH SIMULATION OF CHYLURIA.

THE devices to which hysterical patients sometimes resort in the attempt to simulate some grave disease are apt to be grotesque. For example, Rothmann and Nathanson (*Archiv für Psychiatrie*, xxxii, 1; *Fortschritte der Medicin*, September 20th) relate a case in which the patient injected milk into the bladder to counterfeit chyluria. There were lethargic and cataleptic paroxysms sometimes lasting as long as twelve days, with a rise of temperature to almost 108° F., acute diminution of the area of hepatic dullness, decrease of urea, and ammoniuria. Surely this patient need not have simulated an additional malady.

REMOVAL OF THE THYMUS GLAND.

AT a recent meeting of the Magdeburg Medical Society (*Münchener medicinische Wochenschrift*, 1899, No. 28; *Wiener klinische Wochenschrift*, September 21st) Dr. Purrucker reported the entire removal of the thymus in the case of a boy two years and three months old. The operation was resorted to on account of constantly increasing dyspnœa. We are informed that no technical difficulties were encountered in the excision, but we are not told what effect it had on the dyspnœa.

BLINDNESS IN FINLAND.

THE different degrees to which blindness prevails among various populations is always a matter worthy of study. J. Widmark has investigated the subject as regards Denmark, Sweden, Norway, and Finland (*Nordiskt medicinskt Arkiv*, August). He finds that for every 10,000 inhabitants there are 5.3 blind persons in Denmark, 8.3 in Sweden, 12.8 in Norway, and 15.5 in Finland. The preponderance in Finland, which is not observed among children under ten years of age, is attributed to the great prevalence of trachoma. Curiously enough, the "endemic" affects only the natives.

ENTEROPEXY FOR VOLVULUS OF THE SIGMOID FLEXURE.

AT a recent meeting of the Prague Society of Bohemian Physicians (*Wiener klinische Rundschau*, September 17th) Dr. Wenzel Kopfstein related a curious case of volvulus of the sigmoid flexure. In three attacks, all accompanied with symptoms of obstruction, reduction was effected without a cutting operation, but in the fourth laparotomy was performed and the intestine, which was found bent at a right angle, was restored to its normal shape and stitched to the peritonæum of the anterior abdominal wall to guard against further relapses.

TYPHOID FEVER WITHOUT INTESTINAL LESIONS.

THERE are reasons for supposing that typhoid fever unaccompanied by lesions of the intestinal glands is commoner than has been generally realized. In the October number of the *Canadian Journal of Medicine and Surgery* Dr. A. McPhedran, professor of medicine in the University of Toronto, gives a detailed account of a case, and tabulates nineteen others which Dr. A. W. Tanner has been able to find recorded in various journals during the last few years. Dr. McPhedran looks upon such cases as showing "the irrational basis on which the purgative and *miscalled* eliminative treatment rests."

THE PLAGUE IN SOUTH AMERICA.

THE newspaper statement that on October 19th the plague was reported to the surgeon-general of the Marine-Hospital Service as present in Santos need not be regarded as serious. Dr. Havelburg is said to have reported that there had been six cases, with two deaths, and to have added that isolation was possible. It will be seen by reference to the Marine-Hospital Service Health Reports published in this issue that the report covering the week ending October 20th makes no mention of the plague in Santos.

A NEW CLEVELAND JOURNAL.

THE *Bulletin of the Cleveland General Hospital* completes its first year of publication with the issue of the October number. It is a quarterly edited, under the auspices of the hospital staff, by Dr. Charles J. Aldrich. It is a worthy addition to our periodical literature, and we wish it a full measure of success.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the week ending October 21, 1899:

DISEASES.	Cases.	Deaths.
Typhoid fever	72	22
Scarlet Fever	116	6
Cerebro-spinal meningitis	0	2
Measles	140	3
Diphtheria	188	29
Croup	8	5
Tuberculosis	179	134
Small-pox	3	0
Chicken-pox	19	0

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending October 20, 1899:

Small-pox—United States.

Butler County, Kansas	Oct. 11	9 cases,	1 death.
Chelsea, Mass	Oct. 7–14	4 "	
Everett, Mass	Oct. 1–14	3 "	2 deaths.
Melrose, Mass	Oct. 7–14	1 case.	
Saginaw, Mich	Oct. 1–7	Present in 2 localities.	
Natchez, Miss	Oct. 12	4 cases.	
Cincinnati, Ohio	Oct. 7–14	1 case.	
Pittsburgh, Pa	Oct. 7–14	1 "	
Portsmouth, Va	Oct. 7–14	1 "	1 death.
Orcas Island, Wash	Oct. 6–14	14 cases,	1 "

Small-pox—Foreign.

Bahia, Brazil	Sept. 2–6	1 case.	
Athens, Greece	Sept. 23–30	7 cases,	3 deaths.
Bombay, India	Sept. 12–19		9 "
Madras, India	Sept. 9–15		1 death.
Chihuahua, Mexico	Oct. 1–7		2 deaths.
City of Mexico, Mexico	Oct. 1–7		2 "
Moscow, Russia	Sept. 16–23.	2 "	2 "
Warsaw, Russia	Sept. 16–23		4 "
Erzeroum, Turkey	Sept. 2–9	4 "	1 death.

Yellow Fever—United States.

Key West, Fla	Oct. 6–16	182 cases,	9 deaths.
New Orleans, La	Oct. 12–17	1 case.	
Baltimore, Md	Oct. 7–14	1 "	1 death.

(Taken from S. S. *Armstor*, from Santiago de Cuba.)

Yellow Fever—Foreign.

Cartagena, Colombia	Sept. 2–26	1 case.	
Tuxpan, Mexico	Sept. 25–Oct. 2		3 deaths.
Vera Cruz, Mexico	Sept. 23–30		3 "
Bluefields, Nicaragua	Sept. 23–30		1 death.

Cholera.

Bombay, India	Sept. 5–19		1 death.
Calcutta, India	Sept. 3–9		4 deaths.
Straits Settlements, Singapore	Aug. 1–31		1 death.

Plague.

Bombay, India	Sept. 12–19		94 deaths.
Calcutta, India	Sept. 2–9		41 "
Karachi, India	Sept. 9–16	9 cases,	9 "
Bassorah, Turkey	Oct. 16	Present.	

The Chicago Society of Internal Medicine.—At the next regular meeting, on Tuesday evening, the 31st inst., the following papers will be presented for discussion: The Effects of Veratrine upon the Myocardium, by Dr. S. A. Matthews; and Spasmus Nutans, by I. A. Abt. The presidential address will be delivered by Dr. John A. Robison.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Obstetrics, on Tuesday evening, the 24th inst., Dr. Herman E. Hayd read a paper entitled Pus in the Pelvic Cavity.

Change of Address.—Dr. E. Wood Ruggles, from No. 71 East Avenue, to No. 294 Alexander Street, Rochester, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 14 to October 21, 1899:*

BRADLEY, ALFRED E., Major and Surgeon, United States Volunteers, is assigned to duty temporarily as chief surgeon of the department, and as attending surgeon in St. Paul.

CLARK, JOHN R., Acting Assistant Surgeon, will report to the commanding general, Department of California, for duty with troops going to the Philippine Islands, upon the arrival at San Francisco of HALLWOOD, JAMES B., Acting Assistant Surgeon, United States Army.

HALLWOOD, JAMES B., Acting Assistant Surgeon, will proceed from Fort Crook, Nebraska, to San Francisco, for duty at the General Hospital.

KIRKPATRICK, THOMAS J., First Lieutenant and Assistant Surgeon, is granted leave of absence for eight days.

LAWRASON, GEORGE B., Acting Assistant Surgeon, United States Army, is assigned to duty in the Province of Havana and Pinar del Rio, and will proceed to Quemados, Cuba.

SMITH, BAT, Acting Assistant Surgeon. The order relieving him from duty at the General Hospital, Santiago, and ordering him to the United States, is revoked.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending October 21, 1899:*

BEEBE, D. G., Assistant Surgeon. Detached from the *Bennington* and ordered to the *Ranger*.

CARPENTER, D. H., Assistant Surgeon. Detached from the *Olympia* and ordered home to await orders.

HAAS, H. H., Assistant Surgeon. Detached from treatment at the Naval Hospital, Yokohama, Japan, and ordered to the *Baltimore*.

HIGH, W. E., Assistant Surgeon. Detached from the *Celtic* and ordered to the *Manila*.

NORTON, O. D., Surgeon. Detached from the *Badger* and ordered to temporary duty on the *Ranger*. On arrival at the Asiatic Station ordered to the *Monadnock*.

PERCY, H. T., Surgeon. Detached from the *Olympia* and ordered home to await orders.

PLUMMER, R. W., Assistant Surgeon. Detached from the hospital at the New York Navy Yard and ordered to temporary duty on the *New Orleans* for passage to the Asiatic Station.

ROSENBLEUTH, J. C., Passed Assistant Surgeon. Detached from treatment at the Naval Hospital, Chelsea, Massachusetts, and granted sick leave for one month.

SNYDER, J. J., Assistant Surgeon. Ordered to the *New Orleans*.

STOUGHTON, J., Passed Assistant Surgeon. Detached from the *Monadnock* and ordered to the *Bennington*.

THOMPSON, E., Assistant Surgeon. Detached from the *Manila* and ordered to the *Celtic*.

WILSON, H. D., Passed Assistant Surgeon. Order of October 17th modified. Detached from duty on the *Solace*.

YOUNG, L. L., Passed Assistant Surgeon. Ordered to be examined at the Mare Island Navy Yard, thence home to await orders.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending October 20, 1899:*

WASDIN, EUGENE, Surgeon. To proceed to Berlin, Germany, for special temporary duty.

WERTENBAKER, C. P., Passed Assistant Surgeon. To proceed to Montezuma, Georgia, for special temporary duty.

Decker, C. E., Assistant Surgeon. Relieved from waiting orders and placed on duty to date from October 7, 1899.

Appointment.

Boyd, Frank, of Kentucky, to be Acting Assistant Surgeon, United States Marine-Hospital Service, for duty at Paducah, Kentucky.

Society Meetings for the Coming Week:

Tuesday, *October 31st:* American Public Health Association (first day—Minneapolis); Rome, New York, Medical Society; Medical Societies of the Counties of Queens (semiannual—Garden City) and Rockland (semiannual), New York; Boston Society of Medical Sciences (private).

Wednesday, *November 1st:* American Public Health Association (second day); New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (New Brighton), New York; Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

Thursday, *November 2d:* American Public Health Association (third day); New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, New York; Medical Society of the County of Orleans (annual—Albion), New York; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

Friday, *November 3d:* American Public Health Association (fourth day); Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

Saturday, *November 4th:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

Baird—Wilford.—In Asheville, North Carolina, on Wednesday, October 18th, Dr. Harrison Lenoir Baird and Miss Nancy Orman Wilford.

Donovan—Brown.—In New York, on Wednesday, October 18th, Dr. William Francis Donovan and Miss Mary Newbury Brown.

Duncan — Deetrick.—In Youngstown, Ohio, on Wednesday, October 18th, Dr. William McKinley Duncan and Miss Anna Viola Deetrick.

Glynn—Zerega.—In Brooklyn, on Wednesday, October 18th, Dr. James P. Glynn and Miss Elise Marie Zerega.

Meisburger—Lyons.—In Salamanca, New York, on Wednesday, October 18th, Dr. William C. Meisburger, of Buffalo, and Miss Hazel M. Lyons.

Simmons—Field.—In New York, on Thursday, October 19th, Dr. Warren Seabury Simmons, of Brooklyn, and Mrs. Angela Hook Field.

Speer—Lansing.—In Rhinebeck, New York, on Tuesday, October 17th, Dr. Howard Burnett Speer, of Brooklyn, and Miss Florence Lansing.

Thomas—Walker.—In Washington, on Saturday, October 21st, Dr. John J. Thomas, of Boston, and Miss Frances Pickering Walker, daughter of Rear-Admiral John G. Walker, United States Navy.

Died.

Marshall.—In East Lake, Alabama, on Thursday, October 19th, Dr. F. Marshall, in the eighty-first year of his age.

O'Neill.—In Knoxville, Tennessee, in February, 1899 (date not given), Dr. Arthur O'Neill, of Parkersburg, West Virginia.

Letters to the Editor.

A RESTRICTED DIET AS A CAUSE OF BERI-BERI.

327 Franklin Street, Buffalo, *October 1, 1899.*

To the Editor of the New York Medical Journal:

Sir: I find in your number of September 23d, page 463, second column above: "As to the theory propounded by the Dutch East Indian doctors, that white rice (so largely eaten by all East Asiatics), being infected with a micro-organism of beri-beri, is the means of propagation of the disease, he says that rice is always eaten well cooked (as the bread of the East), and that therefore a micro-organism, if it existed in white rice, would be destroyed, and consequently could not have anything to do with beri-beri."

Now, so far as I know, the Dutch East Indian doctors might have thought about and looked after a specific bacterium, but they have never been able to find it, and so have tried to find other causes.

On the contrary, there is a large part of the profession in the Netherlands (from where nearly all the doctors for the East Indies come) who believe that the chief cause is to be looked for in an insufficiency of rice as food. E. van Dieren, M. D., of Amsterdam, has contended now for thirteen years, in the most logical and scientific way, that beri-beri is caused by the use of poisoned rice. His conclusions are the following:

Beri-beri, ergotismus (acrodynia), pellagra, and lathyrism are caused respectively by rice, grain, maize, and vetch poisons.

These poisons have a similar effect on the human being (possess perhaps a similar composition).

It is more than probable that also from other sorts of meal poisons may develop which are identical with the one referred to or similar to it.

Monotonous subsistence on one or another sort of meal is *in itself* dangerous, the more dangerous as the meal is poorer in albuminous and fatty substances.

A diet chiefly consisting of rice is *in itself* very noxious, because the rice meal contains only a small quantity of those components. Such a diet becomes dangerous if the meal is the bearer of a poison, the more dangerous as less albuminous and fatty substances are given with it.

It would take too much time to follow Dr. van Dieren in his way of reasoning, though it would not be time lost, but the conditions in Japan and the Straits

Settlements have given him full justice. For Japan he refers to Dr. Takaki, who mentions that because the Japanese authorities considered rice to be too great a luxury for the prisoners, they changed it for barley. This change in diet was followed by a considerable diminution of the sufferers from beri-beri, which prosperous condition continued, so that the beri-beri ceased to exist after two or three years, and even without other precautions having been taken. Also Takaki mentions that the beri-beri ceased to exist in the navy, the reason of which was to be found in the change of diet, which happened in 1884.

I could cite many more points from the works of Dr. van Dieren, but must leave the further discussion to more competent men than myself.

E. E. Blaauw, M. D.

A VARIANT OF THE STORY OF THE THREE LANTERNS.

4328 Chouteau Avenue, St. Louis, *October 10, 1899.*

To the Editor of the New York Medical Journal:

Sir: I read with pleasure the story of the three lanterns in your issue of September 9th, also the new version contributed by Dr. Ashmead, in your issue of October 7th. I know an old version, which I think is better than either, which runs as follows:

A man possessed a magic charm which enabled him to see the souls of murdered persons in the front yards of their murderers. This man, while on a journey, was taken sick, and asked the hotel clerk, or some other voluble person, to direct him to a good physician. He received the names and addresses of several, but when he went to call on them saw so many souls in their front yards that he dared not trust them. He wandered on, trying to find a physician with no souls in his front yard, but was unsuccessful. When about to give up the quest, he discovered a doctor's house in front of which was only one ghost, and that an old woman who looked as if she might have died of old age. He decided to try this doctor, and his ring at the bell was answered by the doctor himself, who invited him in. After the prescription was written, the patient observed:

"Doctor, I understand you are very successful in your practice."

The doctor seemed surprised and, after a moment's hesitation, responded: "Would you mind telling me who recommended you to me?"

The man, not caring to give away the secret of the charm, said: "Oh, one of your former patients."

But the doctor, shaking his head, replied: "No, that can hardly be, for I never had but one patient, and I'm quite sure she didn't recommend me."

F. E. Chase, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XLII.

CRIMINAL LIABILITY.

(Continued from page 604.)

Proving Unlawful Performance of Abortion; Illustrations.—In cases where the mother dies from the operation it may happen that the fact that an abortion has been performed can not be shown by any living witness. In such cases the only manner of proving the *corpus delicti*, or body of the wrong, is by having a competent medical man perform a post-mortem and then testify before the jury as to the condition which he found present. In addition to the evidence which such a physician gives as to the condition of the deceased, it is competent for him to also express his opinion or belief as to whether she was pregnant, and, if so, whether or not an abortion had been performed upon her, and give his reasons for such belief.* And so, where the defendant alleges that the deceased operated upon herself, and that he was called in after such operation and superintended her delivery of a dead fœtus and afterbirth, and acted only as an honest medical practitioner should act when called to attend a woman suffering from such injuries, it is competent for a skillful physician and surgeon who has examined the uterus of the deceased to testify whether or not in his opinion the injuries he found thereon were self-inflicted.†

The case of State *vs.* Howard ‡ is a revolting one, in which the fact that an abortion had been performed seems to have first become known through a post-mortem examination. Here the evidence showed that two girls, the deceased and her sister, left their homes for the purpose of visiting relatives in a neighboring town. Soon afterward they left the house where they were visiting for the ostensible purpose of taking an excursion into an adjoining State, but instead they went to the house of the defendant, a practising physician; about two weeks after arriving there the deceased expired. Her body was placed in a coffin and she was sent to her home and buried, but a few days afterward was disinterred and a post-mortem examination made. The examination extended through the body and internal organs, but no examination was made of the brain. The external opening of the vagina was greatly extended, so that the hand, without much difficulty, might be passed in; the uterus was enlarged in size, its walls were thickened, and its blood-vessels were increased in size and number, as is usual in case of pregnancy, and internally there were marks of the attachment of a *placenta*, that had been removed, leaving open sinuses; the breasts were distended, and contained milk, and there was a dark areola about each nipple; the mouth of the womb was then about half an inch in diameter; the neck of the womb was greatly inflamed, and the lining membrane had all been taken off; there were sloughs and holes in the substance of the neck; the body of the womb was healthy, and all the internal organs of the body were in a natural and healthy condition. The physician who performed the post-mortem examination testified, upon the trial of the case, that in his opinion the direct cause of the death was the inflammation of the neck of the womb, and perhaps hæmorrhage; that that was a sufficient cause of death; that there had been a fœtus in the womb from four to seven months old that had been expelled before the examination. He also testified that he had removed the uterus and preserved it in alcohol, and upon request of the counsel for the State he produced it. It was exhibited to the jury and the various parts and marks were pointed out and described.

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* State *vs.* Smith, 32 Me., 369.

† State *vs.* Lee, 65 Conn., 265, 30 Atl. Rep., 1110.

‡ State *vs.* Howard, 32 Vt., 380.

The State then produced a witness who testified to the finding of a fœtus upon the premises of the defendant. The admissibility of this evidence was contested by the defendant, but it was admitted as tending strongly to show the *corpus delicti.*

Deceased's sister then testified that when she and deceased left home it was understood between them that an abortion was to be performed upon deceased; that just before going to the defendant, who lived in a village some miles distant from the one in which they were visiting, deceased met the father of her child, who, it seems, had arranged with defendant to take the case; that arriving at the house of the defendant they told him deceased's condition, that she was six months advanced, and that they desired him to procure an abortion; that he did not consent at first, but, after corresponding with the child's father, agreed to go through with the operation for one hundred dollars; that defendant first gave deceased medicine in the form of bitters, about a gobletful at a dose, which operated as an emetic and cathartic. That about a week after their arrival defendant performed an operation upon deceased with instruments, she lying on the bed in their room, the witness being present; that he used two or three instruments; that he used the instruments internally upon the private parts of deceased, who complained of pain and its hurting while the operation was going on; that discharges of water came from her, which continued to flow for two or three hours more; that on the next day defendant made another operation in a similar manner and attended by pain, which was indicated by complaints and gripping of the hands; that the result of this operation was flowing, and that the witness saw considerable blood; that near night of the same day defendant performed a third operation, making the same use of instruments as in the former operation, and in connection therewith introduced his hand; that the result was a child about two thirds grown; that defendant took the child from the room and witness saw it no more. From the further evidence it seems that deceased lived a week after the first operation; that she was delirious several days before death and became violent.

The theory upon which the defense was conducted was that deceased, before going to defendant's house, had taken strong medicines, which were accountable for the miscarriage and her subsequent death, and that the professional services rendered to her by defendant were only such as her condition required from a physician in the honest and conscientious practice of his profession. To show this, an inmate of the defendant's household was introduced as a witness, who gave in evidence as a *dying declaration* the following statement of the deceased. The witness said that on Thursday, the day before the patient's death, about noon she had a conversation with her while her sister was at dinner; that deceased told witness she thought she could not live, and did not expect to; that she had been taking powerful, poisonous medicines before she came to defendant's, and she thought she had destroyed her life, and that that was what had caused her mouth to be sore; that she hoped they would not blame the doctor; and that she thought he had done everything he could to restore her health, and that she had been out of health a long while. The witness testified that she did not see any indication that deceased was not perfectly sane, and that witness had never discovered any insanity about her, and had no suspicion of it; that she seemed sane through that day, but that on the next morning she seemed to have lost her reason.

The State introduced witnesses who testified that about four o'clock Thursday morning, the day upon which the above conversation was said to have taken place, the deceased became violent and kicked off the footboard, and that she was not in a condition to be able to converse during the day.

Other evidence of a cumulative or corroborative character was given by both sides. The jury found the defendant guilty of the procurement of an abortion. The case was appealed to the supreme court and there affirmed, after which the defendant was sentenced to the State prison.

In the case of State *vs.* Glass * is an illustration of the application of the rule admitting evidence of statements which form part of the *res gestæ.* Here the deceased applied to two physicians, informing them of her condition and asking them to perform an abortion upon her; they both refusing, she then went to the defendant. The State, in order to prove the condition of the deceased, called these two physicians as witnesses and had them testify regarding the statements made to them by deceased. The introduction of this evidence was objected to by the defendant, but it was admitted as part of the *res gestæ.* The supreme court, in reviewing the case, held that the trial court ruled correctly in admitting this evidence. Here the statements admitted related so intimately to the condition which was the principal inducement to the crime for which the defendant was being tried, and were made under circumstances where every possible inducement to suppress, conceal, or distort the truth was overcome, that they could not well be considered otherwise than as admissible upon the grounds named.

Nor, it has been held, can the evidence of a physician who is called upon professionally to perform an unlawful abortion be objected to upon the ground that the knowledge thereby gained by him is privileged, it being a general rule that communications which ordinarily are privileged, are not privileged if made for an unlawful purpose, having for their object the commission of a crime.†

This rule is illustrated in the case of State *vs.* Smith.‡ In this case the evidence showed that the prosecuting witness, an unmarried woman of twenty-three, who was advanced between five and six months in pregnancy, came to the house of the defendant, a practising physician, on the 25th of September, where she remained for some time, and that on the morning of October 5th she had a miscarriage.

The prosecuting witness testified that previous to the time of her going to defendant's house she was in sound physical health and that no attempt had been made to produce a miscarriage. She testified that on the morning of her arrival defendant began treating her for the purpose of producing a miscarriage, and that certain medicines and instruments were used upon her, and that a miscarriage followed their use.

The testimony of the defendant was that the complaining witness came to her for treatment and that she was in a deranged condition; "that the uterus was sore, swollen, and very much inflamed, and it looked like it had been punctured in the mouth of it, and all around the sides"; and that it was "tipped," the parts swollen, and a discharge coming therefrom. Defendant admitted that she used the kind of instruments named by prosecuting witness, but testified that they were used in a different way and for a different purpose from that stated. She described the treatment given, and said it was proper treatment under the conditions to prevent a miscarriage. Several experienced physicians confirmed her in this statement as to the propriety of the treatment, under conditions such as she stated existed, while one or two others condemned the treatment. Defendant further testified that on the fourth day of October she found the head of the fœtus in the vagina, and that it had commenced to leave the uterus; believing that a miscarriage could not be prevented, and that the obstruction must be removed, and having no instruments, defendant sent for another physician who, upon arriving, refused to have anything to do with the case, but, according to defendant's testimony, advised that Nature be allowed to take her course. Whether anything further was done to prevent or produce the miscarriage the evidence does not show.

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* State *vs.* Glass, 5 Or., 73.

† See succeeding article.

‡ State *vs.* Smith, 99 Ia., 26, 68 N. W., 428.

The physician who was called to remove the fœtus was produced as a witness by the State at the trial and asked to state what he saw and did in the presence of the defendant. The defendant objected to the witness answering the question on the ground "that the things he saw, and the conversation he had with this defendant upon the occasion of the visit mentioned by him, were confidential, and that the knowledge he obtained upon that occasion was obtained in his capacity as a physician." The trial court admitted the testimony of the witness. The defedant's counsel excepted to the ruling and the question was reviewed by the supreme court, who held, in accordance with the rule above laid down relative to privileged communications, that as the facts and the testimony of this witness showed "that the communication of defendant to him was for an unlawful purpose and had for its object the commission of a crime," it therefore was not privileged.

The witness testified as follows: "I went into the room and took off my overcoat, and laid down my instruments. (Defendant) told me that she had a friend from the southern part of the State; that she came there to be treated; that she was in the family way, and was to be married to a man in Pennsylvania, and must get out of this fix before she was to be married. She wanted that I should go into the room and examine the patient, and I refused to go. She told me that the girl was sick. I told her that I would have nothing to do with the case. I went into the other room and put on my coat."

There was considerable other evidence given on behalf of both the defendant and of the State, yet the foregoing seems to have been the principal evidence upon which the case was decided. The jury found the defendant guilty of producing a miscarriage and she was sentenced to imprisonment in the penitentiary.

The question of what length of time will be considered sufficient to afford an opportunity to operate is answered to a certain extent in the cases of Commonwealth *vs.* Drake * and People *vs.* McGonegal.† In the former case the evidence showed that the woman upon whom the abortion was performed and the defendant were together fifteen minutes; this was thought to be sufficient time to afford opportunity for the operation. Here the woman upon whom the abortion was performed, and who for convenience will be designated as S., and a friend came from a distant town to the city where defendant lived for the purpose of having the abortion performed. The friend testified that they went to defendant's house, where S. told defendant of her condition; defendant and S. were then alone together for some fifteen minutes. In answer to a question by defendant's counsel, the witness testified that S. told her that defendant had operated on her with something which she concealed with her handkerchief. Witness further testified that S. suffered great pain that night; that two days later, having been ordered from their lodging house by the keeper, they went to the house of defendant and remained there three days.

The defendant denied that either S. or her friend had ever been in the house.

A hack driver testified that he drove the two girls from their lodging house to the corner near where defendant lived, but that he did not know where they went.

There was nothing further to connect the defendant with the procuring of the miscarriage except that the friend, who had always lived in a distant town, described accurately the interior arrangement of the house of the defendant. The jury found the defendant guilty of the crime of procuring an abortion.

In the case of People *vs.* McGonegal the deceased and defendant were alone together in defendant's office for a length of time not exceeding five minutes in duration. The State showed by expert testimony that this length of time might have been sufficient for the purpose; this, in addition to the fact that the evidence showed that defendant had met deceased some days previously, and that there had then been an opportunity to arrange for the operation, was held sufficient to justify the jury in finding that there was an opportunity to commit the crime. In this case the defendant was convicted upon circumstantial evidence. The evidence showed that a friend and intimate companion of the deceased, who knew of her pregnancy and her desire to obtain relief by prohibited means, accompanied her to the office of defendant on July 2d; that the friend remained in the reception room while the defendant and deceased were in the private office together, but that they remained there not longer than five minutes. On the 4th of July deceased was taken sick and defendant went to see her at her lodging house, and, it seems, was informed by the landlady that if there was anything wrong with the patient she must be removed. That night at about eleven o'clock defendant took the patient to another house where she remained until her death, which occurred eight days later. Upon the death of the patient the defendant removed the body himself at about twelve o'clock at night to the undertaker's, and gave a certificate of death, ascribing it to inflammatory rheumatism of the heart. It also appeared that several days subsequent to the patient's death defendant went to deceased's friend for the purpose of getting her to write or sign a letter purporting to come from the deceased which should say that she was doing nicely with an old friend of hers, working every day and Sunday, and would be home in a month or two; not to worry. About ten days after patient's death the body was exhumed and an autopsy held which showed that the death was caused by peritonitis, resulting from an abortion which had been performed upon deceased.

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* Com. *vs.* Drake, 124 Mass., 21.

† People *vs.* McGonegal, 17 N. Y. Supp., 147, 136 N. Y., 62.

The defendant's evidence was that when deceased called upon him on July 2d she informed him of her condition, from which he apparently inferred that she desired him to operate upon her. She said that she had been making efforts in that direction herself, and that she was then complaining of the pains that are usually regarded as a premonition of a miscarriage; that he would not do anything to aid her in the way of procuring a miscarriage, but told her to go home and take care of herself, and that he would treat her, if she wanted him, to the best of his ability. Defendant stated when he called upon deceased on 4th of July he did not recognize her as having called upon him before, and that he did not make any particular examination of her, apparently because of the demand of the landlady for her immediate removal. The defendant's evidence does not show when he recognized deceased as the person who visited him at his office on July 2d. It seems that defendant testified that during all the time he was treating deceased for rheumatism, he made no examination whatever to ascertain whether the efforts made by deceased to produce an abortion, as previously testified to by him, had had any results or not.

The jury found the defendant guilty of manslaughter. An appeal was taken to the general term of the supreme court where the judgment of conviction was affirmed, and from there the case was taken to the court of appeals, with like result. The court of appeals, after reviewing the evidence, said: "If innocent, it was his misfortune to voluntarily environ himself in a network of circumstances which, to the minds of intelligent men required to reach results by rational processes, would admit of no other conclusion than that of guilt."

(*To be continued.*)

Pith of Current Literature.

Observations on the Anatomy and Physiology of the Ear.—Dr. W. F. Cole (*Laryngoscope*, August) says that the accepted theory of hearing is that sound vibrations are transmitted from the membrana tympani through the ossicles to the vestibule and thence to the cochlea, though it is accepted that some sound passes through the air of the tympanum and the fenestra rotunda. His own observations and experiments have led him to believe that the reverse is true. He has also been enabled to clear up the mystery of the so-called artificial membrana tympani. He has reason to assert that sound ordinarily passes not through the ossicles and fenestra ovalis, but through the air of the tympanum and fenestra rotunda. His theory is not new, for according to Politzer it was advocated by the older physiologists, particularly Pascal, and at a later date by Sapolini and Pecchi; but he does not know upon what grounds they based their theories. His theories are based entirely upon his own observations and experiments, and upon deductions therefrom. At Atlanta, in March, 1898, he related his first experiments. A young lady, attending college, consulted him. She had suffered with otorrhœa in both ears from childhood, and was subject to occasional attacks of mastoiditis. She had neither membrana tympani nor ossicles in either ear. The discharge in both ears was from the attic. In the left it was slight, while in the right it was profuse. The hearing, as to distance, was from the right about six tenths, the left one tenth—that is, for the right she heard eighteen feet, where she should have heard thirty feet. He did mastoid operations on both sides. After the operations, the hearing for the left was unchanged, but for the right she heard at five feet what she should have heard at forty. She was compelled to leave school for lack of hearing. He tried various artificial membranæ tympani with no success, except a paper tube, which gave fair satisfaction when it was placed right by accident. Her hearing departed with the cessation of the otorrhœa. He continued to see her occasionally for the purpose of treating the ear and experimenting with the various artificial membranæ tympani. On these occasions he irrigated the ear with a syringe. While the water remained in the attic her hearing was acute. But, to use her own language, "It departed with a gurgle." Such phenomena had been noted by most otologists and the accepted explanation had been that the water acted as a conductor to the fenestra ovalis in lieu of the ossicles. It occurred to him on one occasion that perhaps the improvement might be due to concentration of the sound waves upon the fenestræ. It should be borne in mind that in the normal ear the tympanum was practically a closed cavity, being cut off from the attic and antrum by the ossicles and ligaments; so that when they and the membrana tympani were destroyed the external auditory canal terminated in an enlarged cavity composed of the tympanum, attic, and antrum. This might be illustrated with a speaking tube in which the tube terminated, not in the small ear tip, but in a very much enlarged opening, the sound waves being dispersed instead of concentrated. He found that cotton wool placed in the attic and anterior part of the tympanum acted in the same way as the water had done. He found that the effect was the same whether the fenestra ovalis was or was not closed so long as the attic was closed, and that the hearing was lessened when the posterior part of the tympanum was covered with cotton saturated with water or vaseline.

These experiments explained to him the occasional improvement of hearing in such cases by the so-called artificial membrana tympani, as being due to the accidental cutting off of the attic and antrum, and the concentrating of the sound impulses upon the fenestra rotunda. His conclusions were verified in numerous other cases.

The application of the cotton wool being unpractical, he began to devise some other means of concentrating the sound upon the fenestra rotunda. He found good results from the use of a section of thin rubber tube, such as Politzer used for the poor, but this tube was uncertain because the wall of the tube did not cover the fenestra or else the wall of the tube covered it by slipping over the promontory. He overcame this fairly well by cutting a notch from one side of the inner end of the tube, which would allow the sound to pass to the fenestra, the notch being directed to it. These tubes were imperfect, however, in consequence of the fact that they did not fill the meatus properly nor direct the impulses upon the fenestra. He then devised some cone-shaped tubes, which had been quite satisfactory in a number of his own cases as well as others.

Theories long promulgated, he said, attained almost the force of scientific facts. The theory that sound passed to the internal ear through the ossicles was a familiar illustration. Elaborate experiments had been made to illustrate the fact, and when Edison perfected the phonograph many aurists accepted this as conclusive proof, and to a superficial observer it did appear pretty conclusive; but the author's investigations led him to assert that Mr. Edison's phonograph proved his theory that sound passed to the internal ear not by way of the ossicles, but through the air of the tympanum and the membrana tympani secondaria. When we examined the structure of the drumhead we found it a thin membrane whose strength was due to muscular fibres which radiated from the handle of the malleus to the periphery of the tympanum, and these fibres were as various in length as the strings of a harp. Furthermore, the membrane was not uniform in tension nor was it of uniform thickness, so that the different segments of the membrane would have different fundamental pitch and would vibrate to different tones as did the strings of an instrument. In no other way could we account for the capacity of the human ear to hear so great a multiplicity of sounds at the same instant. It was well known that the director of an orchestra or a chorus of voices could easily distinguish the tone of any instrument or any voice from all the others; but the phonograph could not copy an orchestra nor a chorus as heard by the human ear because it had not the capacity, for the metallic diaphragm vibrated not in segments but as a whole. Many tones were neutralized in their impulses upon the metallic disc, due to the condensation of one sound wave being synchronous with the rarefaction of another wave.

The author asserted that the phonograph could not repeat orchestral nor choral music as heard by the human ear. The loudest sounds would make their impression upon the wax, while the interference of others would result in a squeak. He believed that sounds of great volume and intensity did pass to the internal ear through the ossicles, the membrana tympani vibrating as a whole. What then were the functions of the ossicles and the tympanic cavity? The ossicles were nothing more than a system of levers to regulate the tension of the membrana tympani, much the same as the bridge and the sounding post in a musical instrument regulated the tension of the strings. The tympanum served much the same purpose as the body of the violin to reenforce or magnify sounds. The principle of the reenforcement of sound by confined bodies of air was well understood in acoustics, being the foundation principle in all musical instruments. As previously stated, the mechanism of the human ear was peculiar to mammals. When the outer drumhead and the ossicles were destroyed a person heard in much the same manner as a serpent whose membrana tympani was united to its skin. If the tympanum and labyrinth were eliminated one would hear in much the same way as the snail, and, strange to say, Sexton, Gruber, Bezold, Goldstein, and others had reported cases of some hearing where the whole of the labyrinth had been exfoliated. In the use of the author's tubes he had only applied the well-known principles of acoustics, concentrating the sound impulses upon the inner drumhead or membrana tympani secondaria.

The Excretion of Uric Acid.—Dr. William Bain (*Edinburgh Medical Journal*, October) says that the interest in uric acid arises chiefly from the influence it is supposed to exercise in the causation of gout. The amount excreted in health varies considerably in different individuals, and this variation by no means necessarily depends upon the food taken. If a healthy subject is placed upon a fixed diet, other conditions remaining as much as possible the same, the excretion still shows daily variations. If the uric acid was derived entirely from the ingesta, the only possible explanation of this variation would be that, although the food taken was the same in kind and quantity, the amount assimilated varied, but as this is more or less of an assumption there is another supposed origin of this acid which will be considered. It is well known that nuclein and nucleo-proteid greatly increase the excretion, and Horbaczewski's view that uric acid is derived from the nuclein of the white cells imparts additional interest to the question of the mode of production of the acid. Some support has been given to this theory by experiments recently recorded, in which it has been shown that the variations in the number of leucocytes bear an inverse ratio to the variations in the excretion of uric acid, but it is difficult to understand why this nuclear origin should be restricted to the leucocytes. If the uric acid is partly derived from the metabolism of leucocytes, in all probability the other tissue cells (all of which contain nuclein) share in its production. If at the same time the phosphoric acid was shown to follow closely the uric-acid excretion, the nuclear origin would be strengthened.

Two Special Forms of Catarrhal Jaundice.—Dr. Lauder Brunton (*Edinburgh Medical Journal*, October), in a clinical lecture delivered at St. Bartholomew's Hospital, says that "there are two special classes of catarrhal jaundice—namely, 1, that which is due to thickening of the duodenum itself; 2, that which is due to the presence of mucus in the duodenum. In the case where the catarrh is present in the duodenum, it usually begins in the stomach, spreads to the duodenum, and then involves the bile duct; and the symptoms you get in such cases are, that the patient for two or three days before the jaundice is a little sick, a little out of sorts, has not very much appetite, and feels a little qualmish. In the cases where it seems to begin in the bile duct itself, there are no symptoms whatever, and the patient goes out one fine morning, and he meets a friend, who says, 'You are very yellow to-day.' He goes back and looks in the glass, and finds that he is yellow, but if it were not for the yellowness he would be perfectly well; and he comes simply to get the yellowness removed. As a general rule, you give him a blue pill, or a pill containing either mercury or calomel. One generally gives a mercurial pill with some rhubarb, podophyllin, colocynth, or other purgative, and a saline aperient to follow. This I suppose sometimes does good; at any rate, it is the general treatment, and you may then prescribe some nitrohydrochloric acid, bismuth, or salicylate of sodium. All these drugs are used in cases of catarrhal jaundice; sometimes they do good and sometimes they do not."

Prickly Heat.—Dr. St. George Gray (*Journal of Tropical Medicine*, August), replying to Mr. Frederick Pearse's communication in the *Journal* for June (cited in the *New York Medical Journal* for July 29th), says that where the perspiration evaporates rapidly or can be drained away by absorbent underwear there is little or no prickly heat, and clinical experience bears this out. As the sufferers generally look upon it as an inevitable accompaniment of their residence in the tropics, and as it is also looked upon by many as a "healthy sign," it is rarely brought to the notice of their medical attendant. Most of his investigations, therefore, have been made on his own person. When he first came to the tropics he wore the thinnest of cotton underclothing and was hardly ever free from prickly heat all over his body. When wet with perspiration this was extremely uncomfortable, and he soon realized that cotton was not the ideal material for underclothing in the tropics. He then began to wear wool next to his skin, with the result that prickly heat has never troubled him since, except on those parts of the body not covered by wool or exposed to the air—viz., the forearms *from the lower edge of the woolen sleeve of the undershirt to the lower edge of the linen cuff at the wrist.* Several of his patients who wear woolen underclothing have prickly heat only on their forearms. The wool absorbs the perspiration as fast as it is secreted, and carries it away from the skin to the outer garments, so that the epidermis never becomes sodden, and consequently the orifices of the sweat ducts remain patulous.

The thinnest material will do, provided it is wool. Woolen underclothing is also the best protective against the sudden changes of temperature which are so common in the tropics, and is certainly more comfortable, even in the hottest weather, than wet cotton or linen next to the skin.

By all means let the subject of prickly heat bathe in plain, cool water, without soap. In such a case there is nothing more grateful than a good soak in a tub of rain water or in a mountain torrent, until thoroughly cooled—not chilled—then a brisk rubbing with a rough towel, and afterward gentle exercise to prevent a chill, but not sufficient to cause undue perspiration.

Mr. Pearse says: "Lanolin, when freely used (and it must be very freely used), and when combined with a pleasant oil, is the most successful application." Dr. Gray considers that his very treatment, which is undoubtedly the correct one, shows that he perceives that there is a deficiency and not an excess of sebaceous matter in the skin, which would be the case were prickly heat a seborrhœa.

Theoretically and practically, no doubt the free use of lanolin is the very best curative treatment for prickly heat (always excepting change to a cooler climate), but Dr. Gray does not think that many Europeans will submit to it for any considerable length of time.

The only certain and permanent cure for prickly heat is cold weather. On removal to a cooler climate the eruption disappears as if by magic, however intractable it may have been before, only to appear again with all its attendant discomfort when the sufferer returns to the tropics.

A Novel Urethrotomy for Stricture.—Dr. Mark Wardle (*Edinburgh Medical Journal,* October) records the following case whose interest lies in a novel method of procedure: The patient, a fairly healthy man, aged forty years, had suffered from stricture for many years, and when admitted to the Union Hospital was able to partially empty the bladder by great effort in a small dribbling stream. After prolonged and careful effort, the author was quite unable to get any size of catheter into the bladder. He therefore, on the 12th of June, placed him under an anæsthetic and passed a No. 4 elastic catheter past the first stricture, and, as he hoped, into the commencement of a second. Putting him into the lithotomy position, he endeavored to localize the point of the catheter, intending to cut down on it, and then to open up the stricture and pass the catheter on into the bladder. It was, however, quite impossible to feel the catheter point. He therefore steadied the urethra with the forefinger and cut down to the point where he guessed the stricture to commence. He was thus able to easily enter the urethra, and then passed a director into the bladder. The catheter could then be readily felt in a false passage. He then passed a No. 9 elastic through the wound into the bladder and, dividing the wall of the false passage, brought the point of the No. 4 out of the wound. After taking off the bone head of the No. 9, he inserted the No. 4 into the No. 9, and, using the smaller one thus as a guide, was able to push the No. 9 outward, along the urethra and through the meatus, with theg reatest ease and quickness. The wound was carefully closed by a deep continuous suture and superficial interrupted ones. It healed without any untoward symptoms, and the catheter was allowed to remain until the seventh day. A No. 10 was then introduced without difficulty, and left for twenty-four hours. After that the patient emptied his bladder naturally in a full stream without difficulty. The No. 10 was passed once a day until he was discharged cured on the eighteenth day.

The author adds that in cases of multiple stricture this method seems to him to present a quick and fairly easy method of getting a good-sized catheter *in situ,* the smaller one, on being passed into the larger, forming a safe and certain guide upon which the larger can emerge.

Obstinate Hiccough after Operation.—Dr. Arthur Powell (*British Medical Journal,* September 30th) records the case of a Mussulman, aged thirty-five years, in whom lithotomy under chloroform was performed. A violent hiccough set in on the table and was continued for fifteen days. Every species of text-book treatment, including antispasmodics, narcotics, emetics, purgatives, counter irritation at epigastrium and over the phrenics, was tried without avail. No cause was to be found for the hiccough, which disappeared as suddenly as it had begun. A dose of chloral hydrate had been taken a few minutes previously, but recovery is not attributed thereto.

Iodipin in the Treatment of Advanced Syphilis.—Klingmüller (*Berliner klinische Wochenschrift,* 1899, No. 25; *Fortschritte der Medicin,* September 6th) recommends the subcutaneous use of iodipin (a ten-per-cent. organic compound of iodine with oil of sesame) in daily amounts of twenty cubic centimetres for five successive days. In this way he obtains results equal to those following the protracted use of potassium iodide, and without any unpleasant effects.

The Fifth Case of Fungous Foot (Actinomyces) in America.—Dr. J. T. Arwine and Dr. D. S. Lamb (*American Journal of the Medical Sciences,* October) report the fifth case of fungous foot in this country. The cases in order are Adami and Kirkpatrick (*Transactions of the Association of American Physicians,* 1895, vol. x, p. 92): Man, aged twenty-one years; Canada; ten years' chronicity, right side of the body. Hyde and Senn (*Journal of Cutaneous and Genito-urinary Diseases,* New York, 1896, vol. xiv, p. 1): Man, aged twenty years; United States; thirteen years' chronicity, left side of the body. Pope and Lamb (*New York Medical Journal,* 1896, vol. lxiv, p. 386): Man, aged twenty-seven years; Texas; eight years' chronicity, right side of the body. Wright (*Transactions of the Association of American Physicians,* 1898, vol. xiii, p. 471): Woman, aged twenty-six years; Italy and United States; six months' chronicity, left side of the body. Arwine and Lamb: Man, aged forty-five years; Texas; twelve years' chronicity, left side of the body.

It is probable, says the *Journal,* that, as suggested by Professor Adami, of Montreal, a careful examination of museums would disclose additional specimens; it is probable, also, that many cases of this disease have been erroneously diagnosticated as elephantiasis. Inasmuch as the two American cases in possession of the army medical museum came from Texas, it would seem likely that that section of country would be an inviting field for research. Since, also, in India at least, the disease is found almost exclusively among the peasantry who go barefoot on the soft plowed ground, tropical and semitropical America ought, theoretically, to furnish many more cases than the few which have been reported.

Tea Drinking as a Cause of Cold Feet.—Jonathan Hutchinson, F. R. S. (*Archives of Surgery,* vol. ii, p. 56; *Medical Review,* September), reports the case of a lady who could not take tea because it made her feet icy cold and wet with perspiration. She thought that the soles were chiefly affected, and that the hands were also made cold, but not so markedly as the feet. Mr. Hutchinson had long been familiar with the fact that tea made the feet of some persons cold, but did not know that cold perspiration attended it. He believed the coldness to be caused by contraction of the arteries, inasmuch as the feet shrank. Alcohol had usually an opposite effect.

Walcher's Obstetric Position.—Dr. Alfred Moore (*Memphis Medical Monthly,* October) recommends the placing of the woman on the table on her back, with buttocks projecting over the edge and her feet hanging down with thighs extended, in the position known as Walcher's, the opposite of that of lithotomy, or flexion of the thighs. In 1889 Walcher announced that by extending the thighs of a parturient woman the true conjugate was increased very nearly a centimetre. This is of importance, especially in difficult labors, where the gain of a fraction of an inch is of material value.

While the inlet to the pelvis is enlarged by this posture, the outlet is diminished, and as the head enters the cavity the thighs should be flexed, so as to allow the head more room at the outlet. The author then records the case of a primipara in whom a tedious labor, in which forceps failed to deliver, was promptly and easily terminated on the adoption of this position.

Itrol in Gonorrhœa.—Itrol (citrate of silver), says *Treatment* for September 28th, has been used as an injection for acute gonorrhœa by Wesler and others. Schill (*Therapeutische Monatshefte,* April) gives his views on the subject. As solutions of itrol readily decompose when brought into contact with organic material, the syringe must be washed out with hot water before use, and the silver solution must be put in a clean vessel. Wesler, who has treated fifty cases, used a concentrated solution, 1 in 4,000, diluted with warm water. There was no burning or smarting pain either during the injection or after it. He never met with cases of œdema, hæmaturia, or retention following its use. It is important to commence treatment as early as possible, in order to prevent the gonococci from implicating the deeper parts of the mucous membrane. Schill has employed this remedy during the last year, and has treated a hundred cases. He gives some practical rules to be observed in the treatment: 1. Itrol injections are to be commenced as soon as possible. 2. They should be carried out four or five times a day. 3. The syringe should contain from six to eight cubic centimetres. 4. The fluid must remain ten minutes in the urethra after the latter has been cleansed by half a syringeful of the injection. 5. The strength of the injection at the beginning should not exceed 1 in 10,000. The solution must always be used lukewarm.

Suprarenal Gland as a Hæmostatic.—About a year ago, says *Treatment* for September 28th, Schäfer pointed out the hæmostatic effect of suprarenal gland in epistaxis, and during the last twelve months the extract has been used abroad to control the hæmorrhage in operations in the nose and pharynx. Grünbaum (*Journal of Physiology,* May 11th) suggests that cases of hæmatemesis might be benefited by the administration of suprarenal extract if the active principle was not absorbed sufficiently rapidly to cause a rise in blood pressure, in which case the hæmorrhage would not be controlled. The author made some observations on his own blood pressure before and after doses of pulverized suprarenal tabloids, the hæmostatic properties of which had been tested. An Oliver's sphygmodynamometer was used. The doses taken were ten, twenty, and thirty grains; the blood pressure was taken every ten minutes for three hours after the dose. No cardiac stimulant interfered with the results of the experiments. In no case was there an appreciable increase in blood pressure—that is, an increase beyond that of experimental error, which is four millimetres of mercury.

Other observations are cited with the same results, save in one instance, that of a pregnant woman. The negative results as regards the alteration of blood pressure in normal individuals are said to make it probable that suprarenal extract is an ideal hæmostatic in hæmorrhage from the walls of the alimentary canal or bladder.

Action of X Rays on the Skin.—Lambin (*Monatshefte für praktische Dermatologie,* No. 10, 1899; *British Medical Journal,* September 30th) has investigated the action of X rays on both healthy and diseased skin, and comes to the following conclusions: 1. The action is beneficial in cases of lupus, chronic eczema, destruction of hairs growing on moles, and occasionally in cases of acne, lupus erythematosus, favus, psoriasis, elephantiasis, hypertrichosis, and freckles. 2. On the other hand, the following accidents may result from the use of the X rays: Dermatitis of varying severity, sometimes followed by abscess and necrosis, alopecia, pigmentation, and desiccation of the epidermis.

Inoculation of Animals with Syphilis.—According to the *British Medical Journal* for September 30th, two recent writers state that they have successfully inoculated animals with syphilis. These results, if not conclusive, says the *Journal,* are of interest. Van Neissen (*Wiener medicinische Wochenschrift,* Nos. 11 to 14, 1899), from material obtained from condylomata and from the blood of syphilitic patients, asserts that he has cultivated a bacillus on agar and bouillon. This bacillus resembles sometimes that described by Lustgarten, and in some instances reacts to the same differential stains. Van Neissen inoculated four apes, one dog, one rabbit, and three guinea-pigs, and states that the course of disease in the inoculated animals was the same as that of human syphilis. There was a slight reaction, an eruption of sores on the skin, with a tendency to spontaneous healing, and affections of the lymphatic and nervous systems. On the other hand, the author failed to obtain culture reproduction of the contagium. The photographs given of the sores do not appear to be conclusive, and the *Journal* adds that these sores were diagnosticated as impetigo by another observer. Another paper on the same subject is by Adrian (*Archiv für Dermatologie und Syphilis*, February, 1899), who experimented on guinea-pigs, dogs, and pigs. In the two former animals the results were negative, but in pigs signs appeared similar to human syphilis both clinically and microscopically. Scrapings from a hard chancre inoculated into the abraded skin of the pig caused an eruption similar to a maculo-papular syphilide both clinically and histologically.

Book Notices.

Traité de chirurgie clinique et opératoire. Publié sous la direction de MM. A. Le Dentu, Professeur de clinique chirurgicale à la Faculté de médecine de Paris, etc., et Pierre Delbet, Professeur agrégé à la Faculté de médecine de Paris, etc. Tome huitième. Mésentère, pancréas, rate, foie et voies biliaires, anus et rectum, rein et uretère. Par MM. Francis Villar, J. L. Faure, Pierre Delbet, Aimé Guinard, J. Albarran. Avec 123 figures intercalées dans le texte. Paris: J.-B. Baillière et fils, 1899. Pp. viii–972.

The eighth volume of this valuable work on surgery contains the chapters devoted to the consideration of the diseases of the mesentery, pancreas, spleen, liver, gall bladder, anus, rectum, and kidney. The first section, on the mesentery, pancreas, and spleen, is the least novel and interesting, simply because so little is as yet known of the causes entering into the pathological changes in these organs which become of surgical interest. A recent step forward in the study of the complex and interesting condition known as hæmorrhagic pancreatitis and fat necrosis has not been dwelt upon by the author of the section in so full a manner as the results in the artificial production of the lesions of fat necrosis would warrant, and bacterial infection in these cases is of much less constant occurrence than the text indicates. The chapter by Faure on the surgical diseases of the liver is excellent and very complete. The discussion on the infectious origin of gallstones is completely in accord with the latest views on the subject. The operative procedures described for the removal of stones from the gall bladder, for abscesses of the liver, and for echinococcus cysts are refreshingly accurate and up to date. The best chapter in the volume, however, is that by Albarran, on the surgery of the kidney. The author has long been known as one of the most original and ingenious of the rising generation of Parisian surgeons, and his opportunities as assistant to Guyon have been very great. The fruits of this training can be seen in the clear and practical way in which the various details of the subject are presented. The chapter on the examination of the kidney is very thorough and, although it is partly taken up with the description of a cystoscope adapted from those of Casper and Nitze, yet justice is done to the work of others. The author rightly points out the untrustworthiness of any judgment of the permeability of the kidney based on observation of the time required for the excretion of methylene blue injected subcutaneously, but he ignores the peculiarly valuable and suggestive work recently carried on in Germany on the very constant reduction of the freezing point of the blood in all cases of kidney insufficiency, a matter which promises much for the future study of the relations between the substances retained in the blood on the one hand and the function of the kidney on the other. In the rest of the subject there is less opportunity for an especially original treatment, but throughout the same careful, scientific method is pursued, and no point of value is omitted.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Volume III. September, 1899. Diseases of the Thorax and its Viscera, including the Heart, Lungs, and Blood-vessels—Diseases of the Skin—Diseases of the Nervous System—Obstetrics. New York and Philadelphia: Lea Brothers & Co., 1899. Pp. vi–17 to 440.

The third volume of *Progressive Medicine* is exceedingly interesting and of much value. It contains sections upon diseases of the thoracic viscera, the skin, and the nervous system and upon obstetrics. In all of these the editing and the recording of recent advances have been well done and the chapters are readable throughout. It has been urged as concerns this work that its disadvantage as compared with others of the "annual" class lies in the subscriber's getting his report piecemeal instead of its being in one dose as of yore. We begin to regard the "disadvantage" as an advantage, however, for not only would it seem to make for greater care in preparation, but certainly one may with pleasure read, quarterly, a book of reasonable dimensions (and probably will) who is dismayed by the very bulk of a volume within whose covers is recorded a whole year's work.

A System of Medicine. By Many Writers. Edited by Thomas Clifford Allbutt, M. A., M. D., LL. D., F. R. C. P., F. R. S., F. L. S., F. S. A., Regius Professor of Physic in the University of Cambridge, etc. Volume VI. New York: The Macmillan Company, 1899. Pp. x–3 to 944. [Price, $5.]

Owing to a curious error, the volume before us has been numbered the sixth in the series. As a matter of fact it is the seventh volume of this admirable *System* we are now called upon to notice. Since the error is present both within the volume and upon its binding, unfortunate confusion can scarcely fail to result.

The seventh volume continues the study of cardiac diseases so ably begun in the sixth. Right-sided valvular diseases is the title of the first chapter. Following this, angina pectoris is exhaustively and most interestingly presented.

The next section of the work discusses diseases of the mediastina and of the thymus gland, intrathoracic growths, and diseases of the blood-vessels and the lymphatics. These chapters are very complete and full of interest, especially the portions which deal with the mediastinal disorders. The sections on thrombosis, embolism, phlebitis, endarteritis, and aneurysm are among the most scholarly of the *System* and in a high degree satisfying.

The section that follows is devoted to diseases of muscles and the trophoneuroses, and the next describes the diseases of the nervous system. These chapters are in thorough accord with the standard of the *System*. A very valuable inclusion is the chapter upon medical ophthalmology, a subject that has not received the attention its importance demands. The volume closes with chapters upon the diseases of the spinal cord and its meninges.

Materia Medica, Therapeutics, Medical Pharmacy, Prescription-writing, and Medical Latin. A Manual for Students and Practitioners. By WILLIAM SCHLEIF, Ph. G., M. D., Instructor in Pharmacy in the University of Pennsylvania. Series edited by BERN B. GALLAUDET, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, New York, etc. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. 5 to 354. [Price, $1.50.]

THIS manual is intended chiefly for students, and covers the field usually occupied by most of our college curricula. It will be found a succinct yet lucid textbook, comparing favorably with others of its class. It describes the physical properties as well as the physiological action of drugs, together with their therapeutic uses.

The volume concludes with a chapter on toxicology and other subjects, such as prescription-writing, medical Latin, pharmacy, and practical anæsthesia. A table of doses, poisons, antidotes, and incompatibilities, with a general index, completes the work.

Surgical Nursing. A Compilation of the Lectures upon Abdominal Surgery, Gynæcology, and General Surgical Conditions and Procedures, delivered to the Classes in the Training School for Nurses connected with the Woman's Hospital of Philadelphia. By ANNA M. FULLERTON, M. D., Clinical Professor of Gynæcology in the Woman's Medical College of Pennsylvania, etc. Third Edition, revised and enlarged, with Sixty-nine Illustrations. Philadelphia: P. Blakiston's Sons & Co., 1899. Pp. xv–17 to 294. [Price, $1.]

THE two former editions of this little book appeared under the title of *Nursing in Abdominal Surgery and Diseases of Women*. Its present name more correctly expresses the aim of the author. The writer has devoted much of her space to expounding the latest ideas on aseptic surgery, together with the subjects of disinfection, sterilization, the preparation of ligatures, sutures, and dressings, and the management of surgical complications. An appended chapter, prepared by Miss Sarah H. Janvier, on the dietary of the sick greatly enhances the value of the work.

Over One Thousand Prescriptions, or Favorite Formulæ of Various Authors, Teachers, and Practising Physicians. The Whole being carefully Indexed, and including most of the Newer Remedies. Second Edition, revised and enlarged. Detroit: The Illustrated Medical Journal Company, 1899. Pp. 3 to 222. [Price, $1.]

THIS, the second edition, has been greatly enlarged by the addition of many of the newer remedies. The essential features of the work consist in a compilation of the "favorite prescriptions" of various physicians which have from time to time appeared in Leonard's *Illustrated Medical Journal*. The formulæ would perhaps be more available if the diseases for which they are intended were arranged alphabetically.

BOOKS, ETC., RECEIVED.

The Dispensatory of the United States of America. By Dr. George B. Wood and Dr. Franklin Bache. Eighteenth Edition. Thoroughly revised and largely rewritten. With Illustrations. By H. C. Wood, M. D., LL. D., Professor of Materia Medica and Therapeutics and of Diseases of the Nervous System in the University of Pennsylvania, etc.; Joseph P. Remington, Ph. M., F. C. S., Professor of Theory and Practice of Pharmacy in the Philadelphia College of Pharmacy, etc.; and Samuel P. Sadtler, Ph. D., F. C. S., Professor of Chemistry in the Philadelphia College of Pharmacy. Philadelphia: J. B. Lippincott Company, 1899. Pp. xlv–1999.

A System of Medicine. By Many Writers. Edited by Thomas Clifford Allbutt, M. A., M. D., LL. D., F. R. C. P., F. R. S., F. L. S., F. S. A., Regius Professor of Physic in the University of Cambridge, etc. Volume VIII. Diseases of the Nervous System (continued). New York: The Macmillan Company, 1899. Pp. xii–3 to 937. [Price, $5.]

The International Text-book of Surgery. By American and British Authors. Edited by J. Collins Warren, M. D., LL. D., Professor of Surgery in Harvard Medical School, etc., and A. Pearce Gould, M. S., F. R. C. S., Surgeon to Middlesex Hospital, etc. Volume I. General and Operative Surgery. With Four Hundred and Fifty-eight Illustrations in the Text and Nine Full-page Plates in Colors. Philadelphia: W. B. Saunders, 1899. Pp. 7 to 947. [Price, $5.]

Text-book of the Embryology of Invertebrates. By Dr. E. Korschelt, Professor of Zoology and Comparative Anatomy in the University of Marburg, and Dr. K. Heider, Professor of Zoology in the University of Berlin. Volume I. Porifera, Cnidaria, Ctenophora, Vermes, Enteropneusta, Echinodermata. Translated from the German by Edward L. Mark, Ph. D., Hersey Professor of Anatomy in Harvard University, and W. McM. Woodworth, Ph. D., Instructor in Microscopical Anatomy in Harvard University. Pp. xvi–484. Volume II. Phoronidea, Bryozoa, Ectoprocta, Brachiopoda, Entoprocta, Crustacea, Palæostraca. Pp. xv–375. Volume III. Arachnida, Pentastomidæ, Pantipoda, Tardigrada, Onychophora, Myriopoda, Insecta. Pp. xii–441. Translated from the German by Matilda Bernard. Revised and Edited with Additional Notes by Martin F. Woodward, Demonstrator of Zoology, Royal College of Science, London. London: Swan, Sonnenschein, & Co., Ltd., New York: The Macmillan Company, 1899. [Price, each volume respectively, $4, $3, and $3.25.]

Practice of Medicine. A Manual for Students and Practitioners. By George E. Malsbary, M. D., Assistant to the Chair of Practice, Medical College of Ohio, University of Cincinnati, etc. Series edited by Bern B.

Gallaudet, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York, etc. Illustrated with Forty-five Engravings. Lea Brothers & Co., Philadelphia and New York. 1899. Pp. 3–404. [Price, $1.75.]

Raynaud's Disease (Local Syncope, Local Asphyxia, Symmetrical Gangrene). Its History, Causes, Symptoms, Morbid Relations, Pathology, and Treatment. By Thomas Kirkpatrick Monro, M. A., M. D., Physician to the Royal Glasgow Infirmary, etc. Glasgow: James Maclehose & Sons, 1899. Pp. xii–251.

Bacteria, especially as they are Related to the Economy of Nature, to Industrial Processes, and to the Public Health. By George Newman, M.D., F. R. S. (Edin.), D. P. H. (Camb.), Demonstrator of Bacteriology in King's College, London, etc. Illustrated. New York: G. P. Putnam's Sons, 1899. Pp. xiv–348. [Price, $2.]

Contribution à l'étude du prognostic de l'épilepsie chez les enfants. Par le Dr. E. Le Duigou, Ancien interne de l'hôpital du Havre. Paris: Félix Alcan, 1899. Pp. 3 to 56.

Contribution à l'étude des obsessions et des impulsions à l'homicide et au suicide chez les dégénérés au point de vue médico-légal. Par le Docteur Georges Carrier, Ancien interne des hôpitaux de Lyon, etc. Paris: Félix Alcan, 1899. Pp. 193.

Die Erkrankungen des Nervensystems nach Unfällen mit besonderer Berücksichtigung der Untersuchung und Begutachtung. Von Privatdocent Dr. Heinrich Sachs und Dr. C. S. Freund, Nervenärzte in Breslau. Mit 20 Abbildungen im Text. Berlin: H. Kornfeld, 1899. Pp. x–581.

Lehrbuch der Kinderkrankheiten für Aerzte und Studirende. Von Dr. Adolf Baginsky, a. o. Professor der Kinderheilkunde an der Universität Berlin, etc. Sechste vielfach vermehrte und verbesserte Auflage. Erste Abtheilung. Zweite (Schluss-) Abtheilung. Braunschweig: Friedrich Wreden, 1899. Pp. vii–1109.

On the Uses and Abuses of the Public Hospitals in Australia, Tasmania, and New Zealand. With Thirty-two Practical Suggestions for Reform. By L. Bruck. Sydney: L. Bruck, 1899. Pp. 72.

Transactions of the Association of American Physicians. Fourteenth Session held in Washington, May 2, 3, and 4, 1899. Volume XIV.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States. For the Fiscal Year 1897.

Difficult Points in Gynæcologic Diagnosis. By Wilmer Krusen, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal.*]

The Causation of Uterine Retrodisplacements. By Wilmer Krusen, M. D. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

The Failure of Antitoxine in the Treatment of Diphtheria. By J. Edward Herman, M. D., of Brooklyn. [Reprinted from the *Medical Record.*]

The New Local Anæsthetic "Nirvanin." By August Luxenburger, M. D., of Munich. [Reprinted from the *Philadelphia Monthly Medical Journal.*]

The Evolution of Scientific Medicine. By Louis Faugères Bishop, M. D. Read before the Section of Medicine, New York Academy of Medicine.

Infection in the Toilet. By Martin F. Engman, M. D., of St. Louis. [Reprinted from the *Medical Review.*]

A Study of a Case of Feigned Eruption. By Martin F. Engman, M. D., and Sidney I. Schwab, M. D., of St. Louis. [Reprinted from the *Medical Review.*]

Informes Rendidos por los Inspectores Sanitarios de Cuartel y los de los Distritos. Al Consejo Superior de Salubridad. Correspondientes al Año de 1898.

Miscellany.

The New York Skin and Cancer Hospital.—It is announced that Dr. L. Duncan Bulkley will give a course of clinical lectures on diseases of the skin, free to physicians, on Wednesday afternoons, beginning on November 1st.

The Laboratory Committee of the American Public Health Association has prepared the following provisional programme for the meeting in Minneapolis on October 30th: Introductory address by the honorary chairman, Dr. W. H. Welch, of Johns Hopkins University; Dr. W. G. Bissell, Buffalo—Experiments on the Infectiousness of Clothing; Dr. E. R. Baldwin, Saranac Lake—Recent Laboratory Work on Tuberculosis; Dr. H. W. Clarke, Lawrence, Massachusetts—Action of Massachusetts Water Supplies upon Lead; Dr. W. A. Copeland, Pittsburgh—*Bacillus coli* and Drinking Water; Dr. Floyd Davis, Des Moines—Relation of Water Investigation to Legal Controversies; Dr. R. G. Freeman, New York—Laboratory Studies on Bacteria and Milk Supply; Dr. G. W. Fuller—(1) Classification of Water Bacteria; (2) Standard Laboratory Methods; Dr. F. Ferguson, New York—Ætiology of Disease and its Geographical Distribution; Dr. Adolph Gehrmann, Chicago—(title not given); Dr. Hibbert Hill, Boston—Branching Forms of Diphtheria Bacilli; Dr. G. W. Whipple, Brooklyn—The Observation of Odors as an Essential Part of Water Analysis; Dr. Wyatt Johnston, Montreal—Personal Experience in Disinfection; Dr. E. O. Jordan, Chicago—Notes on Bacterial Water Analysis; Dr. L. P. Kinnicut, Worcester—Laboratory Studies on the Disposal of Sewage; Dr. J. J. Mackenzie, Toronto—(title not given); Dr. F. G. Novy, Ann Arbor—(1) Oxalate Blood and Plasma; (2) (title not given); Dr. W. H. Park, New York—Preparation of Antistreptococcic Serum; Mrs. Ellen H. Richards, Boston—Educational Institutions in Relation to Expert and Commercial Work; Dr. H. L. Russell, Madison, Wisconsin—Gas-producing Water Bacilli of Non-colon Types; Dr. W. R. Stokes, Baltimore—*Bacillus coli* and Drinking Water; Dr. F. F. Wesbrook, Minneapolis—Varieties of Diphtheria Bacilli.

The Wayne County (Michigan) Medical Society's Movement in Favor of Inter-State Reciprocity has been indorsed by the Utah State Medical Society, which has appointed a committee to aid in the undertaking. The committee consists of Dr. Charles Pinckney Hough, Dr. E. V. Silver, and Dr. H. D. Niles.

The American Public Health Association. — The twenty-seventh annual meeting will be held in Minneapolis on October 31st and November 1st, 2d, and 3d, under the presidency of Dr. Henry Mitchell, of Asbury Park, New Jersey. The executive committee has selected the following subjects for discussion: The Pollution of Water Supplies; The Disposal of Garbage and Refuse; Animal Diseases and Animal Food; Car Sanitation; Steamship and Steamboat Sanitation; The Ætiology of Yellow Fever; The Relation of Forestry to the Public Health; Demography and Statistics in their Sanitary Relations; The Cause and Prevention of Infectious Diseases; Public Health Legislation; The Cause and Prevention of Infant Mortality; The Period during which each Contagious Disease is Transmissible, and the Length of Time for which each Patient is Dangerous to the Community; Sanitation, with Special Reference to Drainage, Plumbing, and Ventilation of Public and Private Buildings; Some Method of International Arrangement for Protection against the Transmission of Infectious Diseases; Disinfectants; To Examine into the Existing Sanitary Municipal Organizations of the Countries belonging to the Association, with a View to Report upon those most Successful in Practical Results; Laboratories; To Define what Constitutes an Epidemic; A National Leper Home; The Revision of the Classification of Diseases; and Dangers to the Public Health from Illuminating Gas Leakage.

The special committees are:

Publication Committee.—Dr. C. O. Probst, of Columbus, Ohio; Dr. Josiah Hartzell, of Canton, Ohio; and Dr. Irving A. Watson, of Concord, New Hampshire.

On the Pollution of Water Supplies.—Dr. Charles Smart, of the United States Army, Washington; George W. Fuller, Esq., of New York; Dr. Wyatt Johnston, of Montreal; Dr. José Ramírez, of Mexico; Dr. A. C. Abbott, of Philadelphia; Professor Floyd Davis, of Des Moines, Iowa; Dr. Henry Leffman, of Philadelphia; and Dr. John L. Leal, of Paterson, N. J.

On the Disposal of Garbage and Refuse.—Mr. Rudolph Hering, C. E., of New York; Dr. Benjamin Lee, of Philadelphia; Dr. J. A. Beaudrey, of Montreal; Dr. José Ramírez, of Mexico; and Mr. W. C. R. Colquhoun, of Wilmington, Delaware.

On Animal Diseases and Animal Food.—Dr. D. E. Salmon, of Washington; Dr. Henry N. Avery, of Minneapolis; Professor José L. Gomez, of Mexico; Dr. C. N. Hewitt, of Red Wing, Minnesota; and Dr. Henry M. Bracken, of Minneapolis.

On Car Sanitation.—Professor S. H. Woodbridge, of Boston; Dr. Granville P. Conn, of Concord, New Hampshire; Dr. J. J. Kinyoun, of the United States Marine-Hospital Service, Washington; Dr. Domingo Orvañanos, of Mexico; and Dr. John N. Hurty, of Indianapolis.

On the Ætiology of Yellow Fever.—Dr. H. B. Horlbeck of Charleston, South Carolina; Dr. Felix Formento, of New Orleans; Dr. George M. Sternberg, of the United States Army, Washington; Dr. Eduardo Licéaga, of Mexico; Dr. Manuel Carmona y Valle, of Mexico; Dr. Samuel R. Olliphant, of New Orleans; Dr. Walter Wyman, of the United States Marine-Hospital Service, Washington; and Dr. Alvah H. Doty, of New York.

On Steamship and Steamboat Sanitation. — Dr. Frederick Montizambert, of Ottawa, Ontario; Dr. Albert L. Gihon, of the United States Navy, New York; Dr. S. H. Durgin, of Boston; and Dr. Alvah H. Doty, of New York.

On the Relation of Forestry to the Public Health.—Professor William H. Brewer, of New Haven; Dr. Juan Breña, of Zacatecas, Mexico; Dr. John W. Coventry, of Windsor, Ontario; and Dr. James B. Eagleson, of Seattle, Washington.

On Demography and Statistics in their Sanitary Relation.—Dr. Cressy L. Wilbur, of Lansing, Michigan; Dr. Charles V. Chapin, of Providence, Rhode Island; Dr. John S. Fulton, of Baltimore; Dr. H. M. Bracken, of Minneapolis; and Dr. A. G. Young, of Augusta, Maine.

On the Cause and Prevention of Infectious Diseases.—Dr. Peter H. Bryce, of Toronto, Ontario; Dr. George M. Sternberg, of the United States Army, Washington; Dr. J. J. Kinyoun, of the United States Marine-Hospital Service, Washington; Dr. Jésus E. Monjarás, of San Luis Potosi, Mexico; Dr. C. N. Hewitt, of Red Wing, Minnesota; Dr. A. Walter Suiter, of Herkimer, N. Y.; Dr. Wyatt Johnston, of Montreal; and Dr. Frank W. Wright, of New Haven.

On Public Health Legislation.—Dr. Henry P. Walcott, of Cambridge, Massachusetts; Dr. J. N. McCormack, of Bowling Green, Kentucky; Dr. Henry B. Baker, of Lansing, Michigan; Dr. Samuel R. Olliphant, of New Orleans; Dr. Benjamin Lee, of Philadelphia; Dr. U. O. B. Wingate, of Milwaukee; Dr. C. O. Probst, of Columbus, Ohio; Dr. E. P. Lachapelle, of Montreal; Dr. Gregorio Mendizábal, of Orizaba, Mexico; Dr. J. A. Albright, of Nashville; Dr. James Patterson, of Winnipeg, Manitoba; and Dr. Henry D. Holton, of Brattleboro, Vermont.

On the Period during which Each Contagious Disease is Transmissible and the Length of Time for which Each Patient is Dangerous to the Community.—Dr. Eduardo Licéaga, of Mexico; Dr. John L. Leal, of Paterson, N. J.; Dr. Fernando Lopez, of Mexico; and Dr. J. J. Kinyoun, of the United States Marine-Hospital Service, Washington.

On the Cause and Prevention of Infant Mortality.—Dr. Ernest Wende, of Buffalo; Dr. Baxter T. Smelzer, of Albany; Dr. John W. Coventry, of Windsor, Ontario; and Dr. Emanuel Septien, of Querétaro, Mexico.

On Sanitation, with Special Reference to Drainage, Plumbing, and Ventilation of Public and Private Buildings.—Mr. John Mitchell, of New York; Dr. Miguel Marquez, of Chihuahua, Mexico; Mr. Crosby Gray, of Pittsburgh; Dr. James Campbell, of Hartford, Connecticut; and Dr. C. Hampson Jones, of Baltimore.

On Some Method of International Arrangement for Protection against the Transmission of Infectious Diseases.—Dr. Stephen Smith, of New York; Dr. Frederick Montizambert, of Ottawa, Ontario; Dr. J. J. Kinyoun, of the United States Marine-Hospital Service, Washington; Dr. Eduardo Licéaga, of Mexico; and Dr. Felix Formento, of New Orleans.

On Disinfectants.—Professor F. C. Robinson, of Brunswick, Maine; Dr. Wyatt Johnston, of Montreal; Dr. Alvah H. Doty, of New York; Dr. George M. Sternberg, United States Army, Washington; Dr. Eduardo Licéaga, of Mexico; and Dr. H. W. Hill, of Boston.

On Existing Sanitary Municipal Organizations of the Countries belonging to the Association, with a View to Report upon those Most Successful in Practical Results.—Dr. Charles V. Chapin, of Providence, Rhode Island; Dr. Domingo Orvañanos, of Mexico; Dr. John Sweetland, of Ottawa, Ontario; and Dr. W. C. Woodward, of Washington.

On what Constitutes an Epidemic.—Dr. U. O. B. Wingate, of Milwaukee; Dr. Benjamin Lee, of Philadelphia; Dr. Charles V. Chapin, of Providence, Rhode Island; Dr. Frederick Montizambert, of Ottawa, Ontario.

On a National Leper Home.—Dr. H. M. Bracken, of Minneapolis; Dr. Henry B. Horlbeck, of St. Paul; Dr. José Ramírez, of Mexico; Dr. C. P. Wilkinson, of

New Orleans; and Dr. George E. Coulthard, of Fredericton, New Brunswick.

On the Revision of the Classification of Diseases.—For the United States: Dr. S. W. Abbott, of Wakefield, Massachusetts; Dr. C. L. Wilbur, of Lansing, Michigan; and Dr. A. G. Young, of Augusta, Maine. For Canada: Dr. Peter H. Bryce, of Toronto, Ontario; Dr. E. P. Lachapelle, of Montreal; and Dr. E. Pelletier, of Montreal. For Mexico: Dr. Eduardo Licéaga, of Mexico; Dr. José Ramírez, of Mexico; and Dr. Jésus E. Monjarás, of San Luis Potosi, Mexico.

On Dangers to the Public Health from Illuminating Gas Leakage.—Dr. Samuel H. Durgin, of Boston; Mr. William Paul Gerhard, C. E., of New York; and Mr. J. W. Hughes, of Montreal.

On Laboratories.—Dr. J. G. Adami, of Montreal; Dr. A. C. Abbott, of Philadelphia; Dr. W. G. Bissell, of Buffalo; Dr. Hermann Biggs, of New York; Dr. E. C. Baldwin, New Jersey State board of health; Dr. E. R. Baldwin, of Saranac Lake, N. Y.; Dr. George Blumer, of Albany; Mr. B. Meade Bolton, of Princeton, N. J.; Dr. M. Carmona y Valle, of Mexico; Dr. Richard Cabot, of Boston; Dr. H. W. Clark, Massachusetts State board of health; Dr. H. W. Conn, State Experiment Station, Connecticut; Dr. W. L. Coplin, of Philadelphia; Dr. W. T. Councilman, of Boston; Dr. T. B. Carpenter, of Buffalo; Dr. W. Copeland, of Pittsburgh; Dr. Floyd Davis, Iowa State board of health; Dr. E. A. de Schweinitz, of Washington; Dr. W. L. Drown, of Lehigh University; Dr. E. K. Dunham, of New York; Dr. H. C. Ernst, of Boston; Dr. R. G. Freeman, of New York; Dr. Adolph Gehrmann, of Chicago; Dr. Frank Ferguson, of New York; Dr. Charles Harrington, of Boston; Dr. P. F. Harvey, of the United States Army; Dr. L. Hektoen, of Chicago; Dr. Hibbert Hill, of Boston; Dr. P. H. Hiss, of New York; Dr. Elmer G. Horton, Ohio State board of health; Dr. J. H. Huddleston, of New York; Dr. D. D. Jackson, of Brooklyn; Dr. Wyatt Johnston, of Montreal; Dr. E. O. Jordan, of Chicago; Dr. L. P. Kinnicut, of Worcester, Massachusetts; Dr. J. J. Kinyoun, of the United States Marine-Hospital Service; Dr. S. S. Kneass, of Philadelphia; Dr. Edwin Klebs, of Chicago; Dr. Henry Leffmann, of Philadelphia; Dr. J. H. Linsley, Vermont State board of health; Dr. Jerome Lartigan, of New York; Dr. J. L. Miller, of Chicago; Dr. J. W. MacCollum, of Boston; Dr. J. MacFarland, of Philadelphia; Dr. J. J. Mackenzie, Ontario provincial board of health; Dr. J. W. Mallet, of Charlotteville, Virginia; Dr. W. G. Mitchell, Denver board of health; Dr. V. A. Moore, of Ithaca; Dr. F. G. Novy, of Ann Arbor, Michigan; Dr. G. H. Nuttall, of Cambridge, England; Dr. W. H. Park, of New York; Dr. Herbert Pease, of Buffalo; Dr. Jay Perkins, of Providence, Rhode Island; Dr. T. M. Prudden, of New York; Dr. M. P. Ravenel, of Philadelphia; Dr. Walter Reed, of United States Army medical department; Mrs. Ellen H. Richards, Massachusetts Institute of Technology; Dr. Mark W. Richardson, of Boston; Dr. F. C. Robinson, Maine State board of health; Dr. H. L. Russell, Wisconsin State board of health; Dr. W. T. Sedgwick, Massachusetts State board of health; Dr. H. E. Smith, Connecticut State board of health; Dr. Theobald Smith, of Boston; Dr. Charles Smart, of the United States Army medical department; Dr. E. K. Sprague, of the United States Marine-Hospital Service; Dr. Alfred Stengel, of Philadelphia; Dr. George M. Sternberg, of the United States Army medical department; Dr. W. R. Stokes, of Baltimore; Dr. Gardner T. Swartz, of Providence, Rhode Island; Dr. E. L. Trudeau, of Saranac Lake, N. Y.; Dr. Victor C. Vaughan, of Ann Arbor, Michigan; Dr. G. L. Weaver, of Chicago; Dr. W. H. Welch, of Baltimore; Dr. F. F. Wesbrook, Minnesota State board of health; Dr. G. C. Whipple, Water Department, Brooklyn; Dr. Ezra H. Wilson, of Brooklyn; Dr. L. B. Wilson, Minnesota State board of health; Dr. R. A. Witthaus, of New York; and Dr. J. H. Wright, Massachusetts General Hospital.

Chairman of the Local Committee of Arrangements—Dr. Richard O. Beard, of Minneapolis.

The North Hudson County (New Jersey) Medical Society.—At the first annual meeting, held on September 25th, officers for the ensuing year were elected as follows: President, Dr. John P. Henry, of Jersey City; vice-president, Dr. Max Hecht, of West Hoboken; secretary and treasurer, Dr. Louis E. Poole, of West Hoboken.

Diploma Mills in Illinois.—The supreme court of Illinois on the 16th inst. revoked the charter of the Independent Medical College, of Chicago. For information concerning the steps taken to remove from the legally chartered corporations of Illinois this notorious "diploma mill," see the *Journal of the American Medical Association*, March 12, 1898, page 630 (letter to the attorney-general).

After obtaining further proof of the wholesale sale of diplomas by this institution, the attorney-general brought suit in the circuit court of Cook County to have the charter of the "college" revoked. After hearing the evidence, the court, on February 15, 1899, entered a judgment of ouster. The faculty of the college made no defense, but took an appeal to the supreme court simply to gain time.

The decree of the circuit court apparently in no manner whatever interfered with the sale of diplomas. On the contrary, the "faculty" of the institution made strenuous efforts to confer as many degrees as possible from the college, which was rapidly approaching dissolution, and to that end "lowered the scale of prices" and made doctors of medicine empowered to practise in Michigan, Kansas, Texas, and elsewhere, of all who applied and presented a fee.

The sale of these diplomas has continued to the present time. Early in the month the State board of health purchased one in Fort Worth, Texas, for twenty dollars. The transaction, however, was arranged in Champaign, Illinois, through a licensed physician whom the board has since summoned to appear and show cause why his certificate should not be revoked for unprofessional and dishonorable conduct. The "physician" in this case, whom the college required to "show evidence of qualifications," was a young law student of whom the sole requirement demanded was a tender of the necessary fee in advance.

As the ides of October rapidly drew near, the "faculty" began to realize that he and the Independent had come to the parting of the ways. In August, therefore, the institution "became affiliated" with the "Metropolitan Medical College," another "legally chartered medical college," the charter having been issued by the secretary of state under the provisions of th act of 1872. Just what this institution proposes to do is clearly shown in the subjoined extracts from a letter sent out from the headquarters of the dying Independent:

"Chicago, *August*, 1899.

"Dear Friends:

"Graduates of the Independent Medical College and other advanced practitioners will be glad to know that the enemies of that institution have so far failed to break it up. Since 1896 they have assailed it, and by misrepresentation, vituperation, and expensive proceedings in court have endeavored to overthrow it. But it still stands and with unabated energy and undiminished success it is prosecuting its work of reform to-day. Instead of regarding as a misfortune the opposition it has met from its foes, it regards it as an evidence that its position as an institution set for the overthrow of medical monopoly, and the granting of liberty to all qualified practitioners to pursue their profession unhindered, is right. The more determined the opposition, the more convincing it regards the proof that its work is needed.

"But the world moves, and we must not rest satisfied with past achievements. We must be prepared to meet other and greater emergencies. We must lay the foundation for a firmer footing for competent and experienced physicians, and for greater liberty to the people to employ whatever doctor of whatever school they choose.

"The Independent and the Metropolitan Medical Colleges each have their distinctive fields of work. There are many young men and women of ability who could not meet the heavy expense of a medical monopoly college course, but, according to our method and with the assistance of a preceptor at home, could secure a better practical equipment for practice than that possessed by thousands who have graduated from old-line schools. The Independent has met and will continue to meet the necessities of that class.

"Then, again, there are thousands of experienced practitioners who do not so much require more knowledge as they require the authority and privilege to use the knowledge and ability they already possess. They are competent; their work has proved their efficiency and being justly entitled to a standing before the public not second to any class of physicians, it is the work of the Metropolitan Medical College to accomplish this object, and with this end in view it has adopted the highest standard of any medical college in the country.

. . . .

"Post-graduate courses are now being given practitioners at the Metropolitan Medical College. Full particulars sent on application.

. . . .

"Very truly yours, Jas. Armstrong."

One can not but admire the *naïveté* with which the alumni of the Independent are importuned to get under the shelter of the Metropolitan. There is little doubt that the Metropolitan will be conducted on the same lines as the Independent. If this is the case, its career will be exceedingly brief. Under the provisions of a statute which came into force July 1, 1899, the attorney-general may file a bill in chancery in the name of the people of the State of Illinois against any corporation authorized to confer degrees, diplomas, or other certificate or certificates of qualifications in the science of medicine, pharmacy, or dentistry which conducts a fraudulent business or abuses, misuses, or violates the terms of its charter, in any court having jurisdiction of the corporation and subject matter of such bill, for an injunction to restrain said corporation from conducting its fraudulent business or abusing, misusing, or violating the terms of its charter, and also for the dissolution of said corporation, "and thereupon it shall be the duty of the court in which said bill is filed to grant such injunction and to hear and determine the same as in other cases in chancery. And provided, further, that this act shall apply to schools, colleges, or universities which now are or may hereafter be licensed in this State, notwithstanding any provisions that may exist in their charters."

The enactment of this law is due to the persistent efforts of the secretary and attorney of the State board of health, exercised during the entire legislative session of 1899. Much praise, however, in this connection must be accorded to the governor of the State, without whose aid the labor of the secretary and attorney would have been futile.

The following extract from the decision of the supreme court will be of interest:

This is a proceeding by information, in the nature of a *quo warranto*, brought in the circuit court of Cook County, February term, 1898, by the people, on the relation of the attorney-general, against the Independent Medical College, a corporation of Chicago, to forfeit its franchise or charter. The corporation was chartered in 1896, having as its object the establishment of "an institution of learning" and "for the purpose of promoting mental and physical culture" and for teaching branches taught in medical colleges generally, with power to grant diplomas and confer degrees. The information charges that the corporation is conducted for pecuniary profit; that it confers degrees and issues diplomas for a price, without regard to the qualification or fitness of the applicant to practise medicine; that in some cases no examination whatever is required, and degrees are conferred upon persons wholly unfit and incompetent; that in one case, specifically alleged, a diploma or license to practise medicine and surgery was granted for the price of twenty-five dollars, the applicant never having been a student of medicine or surgery. It is further charged that the corporation "is a mere diploma mill, designed wholly for issuing diplomas to practise medicine, for a consideration, to persons wholly unqualified for such practice."

The respondent filed a plea to the information, denying its general allegations, and averring that it had not resorted to wrongful or unlawful methods in conferring degrees as a means of profit to its incorporators, and that it had not issued diplomas to persons wholly incompetent to practise medicine. To this plea the attorney-general filed a replication averring that the defendant had usurped and misused, and did now usurp and misuse its liberties, privileges, and franchises, and tendering issue. Issue being joined, the cause was heard by the court without jury, upon the pleadings and evidence taken. The court found the defendant guilty as charged, and rendered judgment that the Independent Medical College be ousted and excluded from the exercise of all its corporate privileges and franchises under its articles of incorporation. The defendant prosecutes this appeal.

. . . .

This information charges the grounds upon which a forfeiture of the defendant's charter is urged, with all the certainty required by the rules of civil pleading; and those grounds, if sustained by the proof, were sufficient, as held in People *ex rel. vs.* Illinois Health University, 166 Ill., 171, where we said, among other things: "It is not consistent with the public policy of a State which enacts stringent laws for the preservation of the public health and for the protection of its people from quacks and ignorant pretenders to a knowledge of the science of medicine and surgery to authorize or permit a pretended 'health university' to turn any one, whether known or unknown, qualified or unqualified, into a doctor of medicine, armed with a diploma and degree, as one qualified to heal the sick, who may answer its prescribed list of questions and pay its prescribed fee." And it was there held, for such abuse and misuser the charter of the corporation should be revoked, citing Edgar Collegiate Institute *vs.* People, 142 Ill., 363. The health university, respondent in this case, was practically the same institution as the one now before the court, and the only material difference in that case and this is that there the ouster was upon a demurrer to the information, whereas here there was a trial upon the issues of fact.

Without an extended analysis or weighing of the testimony introduced upon the trial as it appears in this record, we have no hesitancy in saying that it fully justified the finding and judgment of the court below. In fact, it is sufficient to establish the guilt of the defendant, as charged in the information, beyond a reasonable doubt, and would have justified not only the forfeiture of the charter, but the infliction of a fine upon the parties guilty of the abuses. The judgment of the circuit court will be affirmed.

An Attack on the Oculists of New York.—The following article, concerning which we have something to say in our editorial columns, appeared in the *Evening Post* last Saturday:

There is a tacit understanding between some practitioners who "give their services free" at the free ophthalmic hospitals and certain opticians for the division of profits on the glasses prescribed by one and sold by the other to the indigent patient. According to a prominent Maiden Lane optician the most flagrant impositions are practised upon the poor. "I have incontrovertible proof of the cases in point," said the optician. "The leading professors at these free institutions are salaried and above the taint of reproach in professional ethics; but nine tenths of the staff 'donate' their professional services, presumably for the practice. Many in reality go into it as a money-making business, and sometimes the profits come quick and fast, where hundreds of patients are prescribed for in a single day.

"My eyes were first opened to the practice between the oculist and optician when a neighboring optician one day came over to me and asked if I could read some hieroglyphics on a piece of paper which he handed to me. I studied them for a while, and failed to make anything out of them. The 'prescription,' as it was called, had been given that morning to a woman patient at a well-known clinic, and she duly presented it, to be filled, to the optician to whom she was directed. She first asked how much the glasses would cost, and was told $4.50 for a steel frame. This sum was beyond the woman's means, and she said so to the optician as she left his place of business. She then betook herself to the man who came over to ask me to decipher the alleged prescription. He was a relative, and she knew he would fit her out as cheaply as possible. In the first place she went credulously to the optician recommended, because it was impressed upon her that he could be trusted implicitly, and that she should go nowhere else.

"After some consultation, I dictated a letter to the clinic, asking for an explanation of the prescription for the man who was asked to fill it. The oculist involved replied that it was a cipher, and that he was obliged to use it to safeguard his patients from going to untrustworthy opticians. As the man whose signature was appended to the letter was one of the best and most reputable known to the profession in New York, the scheme at the bottom was rather transparent. Had he known the patient was so poor, the writer stated, he would have helped her to get the glasses as cheaply as possible. Upon further inquiry he found that the cipher prescription informed the optician of the patient's circumstances, as adduced from the regular questions put before a patient will be accepted for treatment at the hospital. The new dispensary law is supposed to prevent any but the poor from benefiting from the free hospital treatment, but we discovered that some of the oculists are just as unscrupulous here, for they let no chance of obtaining a commission go by, and it is all the better for their pocketbooks if the suspicion that the patient is fairly well off prove grounded when the price of the glasses is paid. Thirty and thirty-five per cent. of the profits is the usual commission asked and given. By the way, the pair of glasses in question cost $1.25, so the remaining $3.25, had the woman purchased them from the oculist's copartner in business, would have been divided between the two. When glasses costing $4, $5, $6, and $7 are prescribed in large numbers daily, you see the commissions figure up nicely.

"Some oculists insist on receiving the entire profits, and we have discovered that certain opticians agree to this, depending upon future breakages and duplicate orders to reimburse them. Another scheme which has come to our attention since we began to be on the lookout for such things is this: An oculist will give a patient a slip of paper with a number on it, and direct him or her to go to a certain optician. After her departure he telephones the optician the prescription, and the patient is thus prevented from going to any one except the man to whom the number means something.

"Here is a letter which I received a few days ago from an oculist, evidently young in the business, who forgot to make his arrangements as to commissions with his optician first. Inclosed with the prescription is this note, in which the writer says he supposes I will allow him the regular commission on all prescriptions which he sends me to fill. That note fell into the wrong hands, or rather the right hands, as I have been lying in wait for a long time for just such a piece of documentary evidence to support me in a crusade which the reputable opticians are about to institute against the practice in question. It has reached no further stage than the same kind of system once did between medical practitioners and druggists, which is now practically ended, thanks to the stand taken by the medical fraternity as a body when their attention was once aroused to the extent to which the practice was carried on. We hope to accomplish the same result by watching and exposing every one who makes use of the guise of charity to extort money from the poor and lower the professional standard of ethics."

Vaccination of British Soldiers against Typhoid.—According to reports in the daily press, the British soldiers sailing for Africa have been urged to submit to inoculation with antityphoid virus, and a large number have done so.

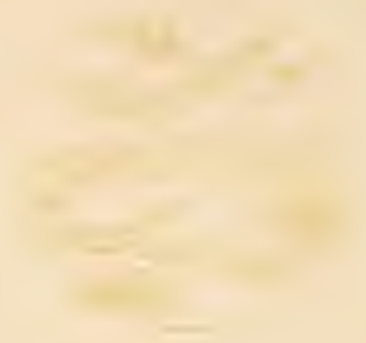

FIG. 1.—Finely granular casts of puerperal eclampsia. Urine obtained by catheter, during convulsions. Eyepiece, iv; objective, Queen $\frac{1}{6}$

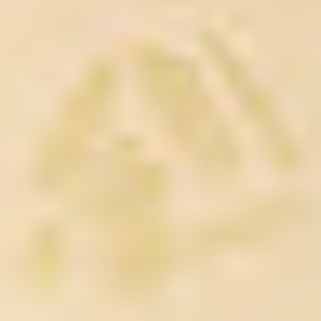

FIG. 2.—Fatty casts, showing fat crystals, from case of chronic parenchymatous nephritis. Eyepiece, ii; objective, Queen $\frac{1}{6}$.

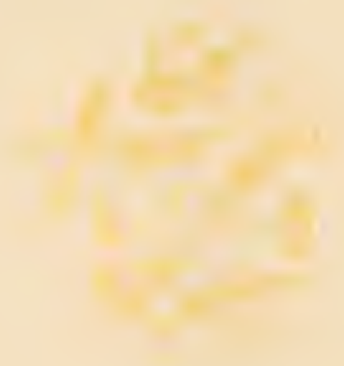

FIG. 3.—Bile-stained casts from case of carcinoma of pancreas. Eyepiece, ii; objective, Queen $\frac{1}{6}$.

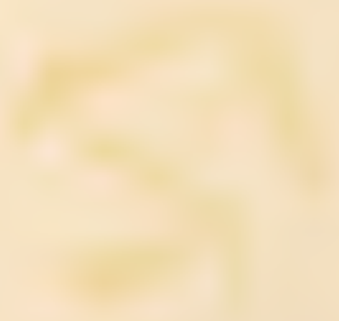

FIG. 4.—Granular casts of acute nephritis. Eyepiece, ii; objective, Queen $\frac{1}{6}$.

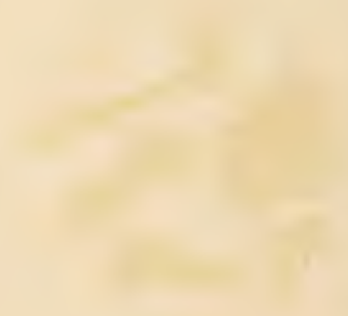

FIG. 5.—Casts of scarlatinal nephritis. Third week of convalescence. Eyepiece, iv; objective, Queen $\frac{1}{6}$.

DR. BOSTON'S ARTICLE ON SPECIMEN CASTS FOUND IN URINE.

THE NEW YORK MEDICAL JOURNAL, NOVEMBER 4, 1899.

Original Communications.

HOW TO PRESERVE AS PERMANENT SPECIMENS CASTS FOUND IN URINE.

By L. NAPOLEON BOSTON, M. D.,
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INSTRUCTOR IN OBSTETRICS IN THE MEDICO-CHIRURGICAL COLLEGE,
PHILADELPHIA.

THE object of this paper is not to review or to deal in any way with the various methods recommended for the mounting of casts as permanent specimens, but to describe the method which has proved satisfactory in the hands of the writer. Generally speaking, all crystalline substances found in urine can be preserved in Canada balsam after allowing them to dry on a slide or cover glass. However, specimens thus mounted are likely to become cloudy in from a few weeks to two years. Shreds of tissue, parasites and their ova, are well preserved when mounted in glycerin, as are unstained bacteria and fungi.

It is far more difficult to make satisfactory mounts of casts, since their general characteristics are so readily destroyed by evaporation or the slightest pressure; and their basement membrane, so to speak, is of such chemical composition as tó dissolve when brought in contact with the various mounting media. The ability to destroy all bacteria, especially those capable of producing gas, is of equal importance in selecting a mounting medium. Where the field becomes cloudy casts disintegrate, or air bubbles appear within a few days or weeks after a specimen is mounted. These changes are commonly due to the development of bacteria. A mixture of the following will be found capable of preserving all forms of casts: Liquor acidi arseniosi (U. S. P.), one fluid ounce; salicylic acid, half a grain; glycerin, two fluid drachms. Warm slightly until solution is effected, when add acacia (whole tears), and again warm until solution is saturated; after subsidence, decant clear supernatant liquid. A drop of formalin (forty per cent.) may be added to this mixture if desired.*

After all ordinary precautions as to cleanliness are taken in securing the urine, a bottle, previously cleaned, is partially filled, corked tightly, and allowed to stand in a cool place until a precipitate collects at the bottom of the liquid. Decant the supernatant urine, add an equal quantity of distilled water to the precipitate, and allow it to stand until it collects again at the bottom of this liquid. (If a few drops of chloroform are added, urine thus obtained can be kept for days without any change in the casts.) The precipitate is lifted by means of a pipette, and a small drop of the thickest of this sediment is placed on the centre of the slide and carried to the microscope, where it can be viewed under a low power. If casts are present, it is evaporated nearly to dryness, when a drop of the above-described medium is added by means of a glass rod to the centre of the drop of urine, and it will be noticed that there is no tendency for these substances to mix; the urine completely surrounds the drop of medium, and in order to get an equal distribution of casts throughout the field, it is necessary to carry a fine needle from the outer margin of the urine to the centre of the medium until the two substances show no tendency to separate, care being taken lest air bubbles are produced. A cover glass is moistened by the breath and then allowed to fall gently on the specimen. The slightest pressure, or the application of heat, is usually destructive to casts. The slide is now put in a cool place for a few hours, in order that hardening may be complete. A permanent ring of zinc-white has been shown to be of value in the preservation of these specimens. The accompanying plates were sketched from specimens that had been mounted two years and a half, and show perfectly every feature possessed by casts studied from the same urine after the usual methods employed.

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* W. T. England, Ph. D., druggist to the Philadelphia Hospital, regards this as an easy method of preparation.

THE MEDICAL HISTORY OF SIR WALTER SCOTT.

By PROFESSOR ROBERTS BARTHOLOW, M. D., LL. D.,
PHILADELPHIA.

To vary a little the medical monotony of the dog days, I took up one day Lockhart's *Life of Sir Walter Scott*. Besides being among the first of great biographical works, the life of Scott must have perennial interest for the physician because of the remarkable incidents in the medical history of its subject. As Lockhart, the biographer, was Scott's son-in-law, he had the best opportunity for ascertaining the real facts, and he possessed in considerable degree that narrative skill which Boswell exhibited in such supreme measure in his *Life of Johnson*.

Sir Walter Scott, when fully grown and developed into manhood, was physically an admirable specimen of the border Scotsman—with one exception: he was lame in the right leg. There can be little doubt that this lameness was due to the infantile form of "poliomyelitis anterior," or, as it is commonly called, "infantile paralysis." It is a curious circumstance that the two great English poets of the first part of this century should both have been lame, and from the same cause. When Scott and Byron met in London at the house of Murray, the publisher, the conversation between them concerned, we may suppose, every topic other than their mutual lameness, since we have no record of any humorous or serious allusion to their respective physical limitations. Byron guarded his secret with an exquisitely sensitive apprehension of exposure, and permitted no reference to it even by his most intimate friends, and was quick to resent even a look of inquiry directed toward his deformity. During Byron's life, therefore, nothing could be ascertained of the nature of his lameness. It is narrated, however, that in a few hours after his death an inquisitive friend stole into the room where the poet's body lay, and, quickly removing the covering, saw that the deformity consisted in a shriveling of both legs. "The body of Apollo and the legs of a Satyr."

Scott was never reticent about his lameness, and in an interesting autobiographical fragment gave the clinical history of his ailment. He says: "I showed every sign of health and strength until I was about eighteen months old. . . . In the morning I was discovered to be affected with the fever that often accompanies the cutting of large teeth. It held me three days. On the fourth, when they went to bathe me as usual, they discovered that I had lost the power of my right leg. . . . There appeared to be no dislocation or sprain; blisters and other topical remedies were applied in vain. When the effects of regular physicians had been exhausted without the slightest success, my anxious parents, during the course of many years, eagerly grasped at every prospect of cure which was held out by the empirics, or ancient ladies or gentlemen, who conceived themselves entitled to recommend various remedies, many of which were sufficiently singular." When he was four years old, he was sent to Bath, where he lived a year and "went through all the usual discipline of the pump room and baths, but he believed without the least advantage to his lameness." He was also treated by the celebrated electrical quack, Dr. Graham, who made a great parade of electric appliances, but he was not benefited in the least by the magnetic touch of the splendid quack, or by the electric current. Remak had not then appeared with galvanism, nor had Duchenne developed the new faradaism. Indeed, nothing was then known of the methods now employed in the way of massage, movements, local electrization, etc., and still less of the pathological condition: the atrophy and degeneration of the multipolar cells of the anterior cornua of the spinal cord, and their connected fibres, the neurons. Of course, nothing was then known of the reactions of degeneration, the loss of faradaic excitability, the retention of the galvanic reaction, and the ultimate extinction of response to all electrical excitation. Notwithstanding the poverty of their therapeutical resources, one measure was resorted to that we may well imitate.

Scott's grandfather was Dr. Rutherford, professor of medicine in the University of Edinburgh, and by his advice, besides going into the country to rough it, efforts were made to call into action the affected muscles by the will. This method consisted in placing bright objects, or things that the boy especially desired, in such a position that he could get them only by the most powerful efforts in which the affected members participated. By the persistent use of this plan of "natural exertion" there ensued a great gain in the power of the will over the muscles, and they increased in size and in the range of their actions until the limb ultimately became quite useful, although always lame. This method of dominating the paralyzed and wasted muscles by the forcible action of the will is only possible in those cases in which a little voluntary control was still preserved. Some response to the will may be present, when the faradaic or interrupted galvanic currents have no longer any power to excite muscular contractions. That this was the case with Scott is shown by the results of the method of "natural exertion." As he writes in his autobiography: "My frame gradually became hardened with my constitution, and, being both tall and muscular, I was rather disfigured than disabled by my lameness. This personal disadvantage did not prevent me from taking much exercise on horseback and making long journeys on foot, in the course of which I often walked from twenty to thirty miles a day."

As his father's apprentice, Scott was introduced to the law, and "he put on the gown in June, 1792." He was early drawn off from the law into imaginative literature, when he produced those celebrated works on which his fame now rests. Although his authorship of the poems was never concealed, the great novels in which he attained the highest reach of his powers were published with a careful attempt to keep their creator's identity from the public, and with such success was this secrecy consummated that their author was called "the Great Unknown." In Edinburgh, however, the real facts were known to a great many, and throughout England were suspected by multitudes. He was the most interesting figure in the social life of the time. He was an eminently handsome man, friendly and accessible. The king was his intimate personal friend, and the humblest peasant was sure of a kind reception. During his youth and early manhood, and while he was a student (apprenticed to the law) there was much dissipation among his associates, and in the society of Edinburgh generally. He says in his autobiography: "Convivial habits were then indulged among the young men of Edinburgh . . . to an extent now happily unknown" (vol. i, p. 118). As his reputation grew with the appearance of his poems and other great works, Scott became more and more in demand in the social life of his native city. He quickly rose into the position of the most eminent literary character of his time, and he possessed in the highest degree all social gifts and graces. It can not surprise us, therefore, that he became the most important personage in all social functions—at every dinner, at every champagne supper. When he was in London on several occasions, King George IV, then Prince Regent, "got up snug little dinners that will suit him"; at which the toasts were frequent and in bumpers; the fun ran high; the enthusiasm was tremendous (vol. iii, p. 249). Although never intoxicated and an indefatigable worker, and for many years after childhood free from any illnesses, he could hardly fail to experience the usual results of wine-drinking, drinking of Scotch whisky, and improper feeding in all directions. When he approached middle life these indulgences bore their legitimate fruit. To quote his biographer: "For the first time since his childhood years Scott was visited with a painful illness, all nearly of the same kind continued at short intervals during more than two years." The first serious alarm occurred toward the close of a "merry dinner party" in Castle Street (on the 5th of March, 1816), when he suddenly "sustained such exquisite torture from cramp in the stomach" (vol. iv, p. 37).

From the first attack, as given above, Scott had numerous ones during successive years. They were all characterized by similar symptoms: exquisite pain in the epigastrium, nausea and vomiting, jaundice, constipation, followed by soreness through the abdomen and back. Frequent references are contained in his letters to his more intimate friends during these years to attacks coming on usually after indulgence at the table, or during digestion, at periods varying somewhat from the beginning to the end of the process. Although hepatic calculi are not mentioned, and the attacks are always described as "cramp in the stomach" or colic, there can be no doubt these seizures were due to the passage of gallstones. The paroxysmal character of the attacks, the severe pain coming on suddenly, the nausea and vomiting, the rather sudden cessation of pain, the appearance of jaundice, and the considerable soreness and tenderness remaining afterward, make the diagnosis in a high degree probable. We hear of no attempts made to ascertain by a suitable examination of the stools the real cause. Nowadays, the physician would be singularly remiss who neglected to do this. To be successful the examination should be painstaking. The stools should be carefully stirred up in water, and every solid particle arrested for examination. A sieve sufficiently fine to stop any formation should be made use of; any solid obtained should be examined to determine whether a calculus or not. Mistakes are frequently made even now, and intestinal concretions, seeds, and olive-shaped fatty bodies are supposed to be calculi by those ignorant of their true shape and composition. In such a case as Scott, with numerous attacks, the calculi were no doubt of considerable size, angular, with smooth surfaces or facets, and composed for the most part of a nucleus of inspissated bile, surrounded by crystallized cholesterin. The occurrence of these attacks at some time during the process of digestion may be explained by attendant phenomena.

No doubt calculi are carried down into the cystic or common duct when the downrush of bile takes place on the entry of foods from the stomach into the duodenum. This is a reflex act, in part due to the acid reaction of the stomach contents, and in part to the distention of the bowel by the foods. As the attacks were numerous, the pain exquisite, and the after jaundice and soreness considerable, we may suppose that there were various calculi present, that they formed smooth facets and angles, by mutual pressure, so that, when they began their downward journey from the gall bladder to the intestine, the bile was intercepted, the mucous membrane bruised, and the duct walls so injured as to excite local inflammation extending to the peritoneal investment. We note here a circumstance common to cases of this kind. The first attacks were most severe, and when they followed each other quite soon, the succeeding ones were milder, for the passage of the first calculus more or less stretched the duct, thus permitting the remaining bodies to pass down more readily and easily. In a letter to a close friend, Scott describes the results of a seizure. "They have been, to say the least, damnable; and I think you would hardly know me. When I crawl out on Sibyl Gray, I am the very image of Death on the pale horse, lantern-jawed, decayed in flesh, stooping as if I meant to eat the pony's ears, and unable to go above a foot pace." His biographer, in the fourth volume (p. 187), describes Scott's appearance and condition after a succession of attacks: "He had lost a great amount of flesh—his clothes hung loose about him—his countenance was meagre and haggard, and of the deadliest yellow of the jaundice, and his hair, which a few weeks before had been but slightly sprinkled with gray, was now almost literally snow-white." We have another account from a celebrated writer (Carlyle), who, in a review of the *Life* by Lockhart, alludes to the remarkable change in his appearance which he himself observed when seeing Scott on the streets of Edinburgh. But Carlyle, while admitting Scott's preeminence as a literary character, refused to admit him to the class of really great men, in which, no doubt, may be recognized a spice of envy and uncharitableness. His observation on the physical traits must, however, be entirely reliable.

Something in respect of loss of flesh and strength may be attributed to the violent treatment to which he was subjected by his medical attendants. Those were the days of the antiphlogistic remedies and regimen. Writing to Southey, Scott says, on one occasion (vol. iv, p. 174): "I have been seized with one or two successive crises of my malady, lasting in the utmost anguish from eight to ten hours. If I had not the strength of a team of horses, I could never have fought through it and through the heavy fire of medical artillery, scarcely less exhausting—for bleeding, blistering, calomel, and ipecacuanha have gone on without intermission—while during the agony of spasms, laudanum became necessary in the most liberal doses." To the reducing effect of these remedies was added the antiphlogistic regimen—a diet of tea and toast.

Besides the enormous labor and the protracted sedentary life required to produce the immense result of his literary activity—the poems, the histories, essays, and novels—Scott in the midst of his unrivaled success began to experience some serious worry. Engaging in the publishing business with the Ballantines, and with Constable, who after a time failed most disastrously, and building the memorable pile of Abbotsford, he became seriously embarrassed notwithstanding that he was in receipt of enormous sums from his writings. He redoubled his exertions to retrieve his fortunes, and overwork was added to worry. He lost his wife when all of these pecuniary disasters were falling on him. His ambition to establish himself as a landed gentleman and "to found a family" seemed now to be impossible of fulfillment.

It is not often that work merely is a cause of disease; worry is a far more influential factor, and if we add worry to work, and to these free indulgence in the pleasures of the table and in drinking beer and wine and stronger liquors, we have the usual causes of the threatened or actual breakdown which so often happens to men at the middle period of life. When about fifty years of age, Scott began to suffer the muscular pains and joint changes of rheumatism. *Pari passu* we may suppose changes went on in the organs of circulation; the arterial tunics became the seat of atheroma, and the tension of the vascular system rose correspondingly. In his letters we find frequent references to "R.," which stands for rheumatism, and "R. R. for rheumatism redoubled," or for attacks increasingly severe, so that his hands were so disabled as to make his writing obscure and almost illegible. Attacks of rheumatism of the subacute and chronic type often precede serious cerebral mischief, coincident with more active alterations in the arteries and capillaries of the brain, and in the heart. No doubt the element of worry entered into the production of these results. Worry inhibits the cerebral functions, lessens oxidation generally and in the brain especially, and it favors the retention and deposit of waste products. Carlyle, as before mentioned, was greatly impressed with the changes wrought in his countenance by the terrible ordeal through which he was then passing. Instead of the round face, the brilliant eye, and the interesting expression of his "fine Scotch face," it was deeply lined, anxious, and wasted.

A considerable change in Scott's habits took place during the period of his calamity, and was a necessary consequence of the fallen state of his fortunes. As his literary labor had always proved so lucrative, he hoped, by devoting his whole time to his writing, to roll away the mountain of debt that had accumulated. To accomplish this object which lay so near his heart, he began to work double tides and labored unceasingly. His biographer says (vol. vii, p. 10): "Formerly, however great the quantity of work he put through his hands, his evenings were almost always reserved for the light reading of an elbow chair, or for the enjoyment of his family and friends. Now he seemed to grudge every minute that was not spent at his desk. The little that he read of new books . . . was done by snatches in the course of his meals."

As Lockhart well says, "Sir Walter was now to pay the penalty of his unparalleled toils," carried on as they were under the most imprudent, most exacting method of working. For some time he had experienced at irregular intervals attacks of headache and "nervous irritability" which alarmed him much. In letters to his publishers, he had several times alluded to his work as "smelling of apoplexy." Also he had other warnings of his impending fate, "harbingers," Lockhart called them. There was the more reason to be apprehensive in that heredity was well defined; both his father and elder brother having died of apoplexy.

The first distinct attack occurred in February, 1830, when he was fifty-nine years of age. He fell upon the floor, was unconscious, and speechless for ten minutes. The practice then pursued was quite effective; he was bled, cupped, and "tasted nothing but pulse and water for some weeks." Under this severe regimen he apparently recovered—so nearly so that when he appeared abroad again, people generally saw no change, and he resumed work as usual. But a change had taken place: he was never again the same man, and the work he did bore evidence of failing powers. In commenting on this attack in his diary, he wrote as follows: "I was frightened by a species of fit I had in February which took from me my powers of speaking. . . . It looked woundy like palsy or apoplexy."

In explanation of this seizure, we may suppose that in consequence of chronic endarteritis, a capillary hæmorrhage ensued, or a sudden thrombus formed in a small vessel, blocking it, and was followed by collateral hyperæmia and œdema. The method then employed to relieve was in the highest sense antiphlogistic, and certainly no plan of treatment could have been more effectual for the time being. Although the therapeutical diagnosis was based on the notions then prevalent, and would not be held now as worthy of consideration, in the light of modern pathology, the treatment is amply justified. To lessen the fullness and diminish the tension of the vascular system were clearly indicated at the onset of the cerebral mischief. Other attacks of a similar character occurred. The second seizure came on nine months after the first, and a third one year after the first; the fourth and final one, the immediate forerunner of his death, happened on the way home from his journey abroad. His mind failed progressively from the first in harmony with the decline in his bodily powers. All these were treated on a uniform plan. As soon as the symptoms of an attack came on he was bled freely, cups were applied, and his diet reduced to bread and water, or little more. Although this plan of medication was justified by the success achieved in the first instance, yet with the progress of the case, the more frequent attacks, and the rapid decline in bodily strength, the lowering measures were carried too far. As there was found after death a considerable patch of softening in the left corpus striatum, the very severe antiphlogistic measures carried out whenever a seizure was threatened or had occurred could only contribute to the extension of the pathological changes. It is stated in the autopsy that there was no alteration of the vessels, but the state of knowledge in those days was, as compared with now, primitive. Then nothing was known of cerebral localization, as now understood, and little of the minute anatomy of the brain. No doubt, if the vessels had been examined by the microscopical methods now employed, more or less advanced atheroma, especially of the vessels in the neighborhood of the softened tissues, would have been found. In cases of this kind, with rigid arteries at the wrist and temples, there is associated chronic endarteritis of the brain in those arteries most taxed in function, as the basilar, middle cerebral, etc.; but often the whole arterial distribution is more or less damaged with atheroma.

There was fluid in the ventricles and in the subarachnoid spaces—in other words, the brain was in the condition now known in the post-mortem room as the "wet brain." The report of the autopsy further states that there were three small "hydatid cysts" in the left chorioid plexus. There is no reason to suppose that these cysts were true hydatids, for there was no evidence of the presence of either echinococci or cysticerci. The right-sided paralysis was explained by the patch of softening in the left corpus striatum, but the language faculty was no more impaired than was the general intelligence. At no time did Scott have aphasia, for he was able to speak many words distinctly up to the last moments of his life. The softening did not encroach upon the paths of continuation of the motor neurons, coming down from the third left frontal convolution.

It is interesting to compare the therapeutical management of Scott's case with that which would now be considered as most appropriate. Assuming the existence of changes in the vessels of the brain, more especially the capillaries, with thrombi or emboli, extravasation of blood, and collateral hyperæmia and œdema, what measures of relief are indicated from the standpoint of existing knowledge? Bleeding is clearly useful when a hæmorrhage is threatened, or, having begun in a small way, is proceeding with increasing momentum, or when the collateral hyperæmia is augmenting, but only mischief is produced by repeated bleeding. When a large vessel has given way and the blood has broken through into the lateral ventricle no abstraction of blood can be of any service. When, as so often happens, capillary thromboses have formed, the question is, Can the permeability of the obstructed vessels be restored? There are two agencies which may be resorted to: alkalies to increase the power of the blood to dissolve fibrin, and cod-liver oil and the hypophosphites to improve the nutrition of nervous matter. The alkalies most useful under these circumstances are ammonia and the salts of sodium, notably the iodide. Our French colleagues have taught us the great value of sodium iodide persistently administered as a remedy for atheroma of the vessels, and for the abnormally high tension due to this state, as well as for the cardiac changes arising under the same conditions.

As in its ultimate constitution nervous matter is a phosphorized fat, to make use of the hypophosphites in conjunction with cod-liver oil is an eminently rational procedure. Here experience is in harmony with theory, but all active irritation must have subsided before they can properly be used. The same fact is true of strychnine, which is so much used to bring about the functional regeneration of the nerve structures. The time for its administration is when all local hyperæmia has ceased and when the damaged structures have been repaired to the fullest extent they are capable of.

In further illustration of the remarkable changes that have taken place in pathology and therapeutics, it should be noted that nowhere is any reference made to the state of the renal functions. As the utmost candor in its revelations is characteristic of Lockhart's biography, it is not probable that any facts of this kind were withheld. The hepatic disturbances lasting over several years, and rheumatism, with its joint and circulatory changes, coming on subsequently, were circumstances extremely likely to bring about alterations in the renal structures. Chronic interstitial nephritis, with the presence of albumin and casts, would now be expected to play a part in the morbid developments of the case. It is probable that the melancholy decline in Scott's intellectual powers was in part due to defective renal action—to the complex of symptoms and structural alterations of uræmia.

1527 Locust Street.

THE
PATHOLOGY AND THERAPY OF CANCER,
WITH SPECIAL REFERENCE TO
CANCER OF THE STOMACH.*

By AUGUSTUS C. BERNAYS,
ST. LOUIS.

Mr. President and Gentlemen: You will allow me to thank you for the high honor which you have conferred on me on this occasion. While your selection has done me great honor, the choice of subjects which would be of interest to the members of this representative body of professional men is one which has caused me some anxiety. After ripe deliberation I have come to the conclusion that this is an opportunity for presenting the modern standpoint of a certain department of medical science. I have been engaged in practical surgical work for nearly twenty-five years as teacher and operator, and shall base my critical remarks on the advances that have been made in the treatment of cancer largely upon my own observations. There has been great activity in the study of malignant neoplasms, and the last few years have brought about a marked change in the therapy of these diseases. We are now doing operations of the greatest importance and extent and are invading regions not thought of formerly. In fact, these operations in cancer cases are of daily occurrence, and are done by many surgeons in all parts of the world as a matter of principle and of duty. In an address of this kind it can not be my object to present the results of original research so much as to give you the present views as they have been evolved by many laborers in the laboratory and in the clinic. The main object must be to arrive at some definite conclusions as to the value of our methods of managing the very common and apparently increasing numbers of cases of cancer that seek our advice and our aid.

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* An address delivered before the Oregon State Medical Society at its annual meeting at Portland, June, 1899.

I shall use the word cancer in its general sense, including the two forms of malignant neoplasms known as carcinoma and sarcoma. I have a right to assume that the histological structure of these growths is well known to all of you as presented in the modern textbooks, and shall only call your attention to the fact that there are forms of sarcoma which so closely resemble some forms of carcinoma that a differential diagnosis is not as simple as it might appear from the teachings of the text-books. Some very important investigations recently made seem to show that even epithelial growths are preceded by changes in the connective tissue which always underlies the epithelial layers of the skin and mucous membrane. I have myself seen two large-celled sarcomata which had a plain alveolar structure and puzzled all investigators very much indeed. I wish to go on record as holding that the sharp line which has been drawn between sarcoma and carcinoma can not be maintained, and that in my opinion we are far from an understanding of the biological significance of the malignant tumors. The line of research which promises finally to solve the question as to the origin of tumors has been followed in a most laudable but as yet only tentative way by that brilliant English surgeon, Mr. Bland Sutton. His little work on tumors is so instructive and so concisely written that I can not refrain from recommending it to you, and promise you a rare treat from its perusal. While speaking on the literature I can say that the work on tumors by my friend Nicholas Senn, of Chicago, is the only work on the subject written by an American surgeon which deserves mention. It is a truly great book, and stands next in importance to Senn's *Principles of Surgery* among the works of that admirable and indefatigable surgeon.

I have just stated that a sharp line can not be drawn between sarcoma and carcinoma, and I must now tell you that a line can not be drawn which will everywhere separate malignant from benign tumors. It is a fact that the microscope alone can not be relied upon to make a differential diagnosis between sarcoma and some forms of granulomata. Sarcoma can not always be distinguished from lymphoma, nor from gumma, and not even from some tubercular tumors, by any known histological methods. The absence of tubercle bacilli in a tumor does not prove that tubercle bacilli are not the producers of the toxine which may have caused the proliferation of cells in question. Even when to the history and the microscopical examination of sections of a tumor is added a full clinical examination by means of all our modern methods, and by means of all our instruments of precision, a reliable diagnosis is sometimes impossible. Fortunately for us and for our patients, these cases are extremely rare, but I felt constrained to bring out the existing defect in this address because we are strongest when we best appreciate our weaknesses.

Along the line of bacteriological research all attempts to solve the question as to the ætiology of tumors have not advanced our knowledge much. The numerous alleged discoveries recently published still await corroboration, and while, no doubt, some valuable facts have been discovered, their authors have failed to prove that the various parasites, some resembling amœbæ, others belonging to the coccidia, and still others closely resembling ordinary fungi of decomposition and saprophytes, are really ætiological or causative in the development of cancer. These workers have, however, succeeded in proving to us that under the head of what we call cancers, malignant neoplasms, some widely different things are included. When we think of a malignant papilloma or wart; of a small black sarcoma of the chorioid, beautifully visible in the background of the eye; of a soft, almost bloodless, white or gray sarcoma of the fascia lata; again, of a hard scirrhous tumor of the breast, or of a pulsating blue vascular sarcoma of the orbit, we must all believe that under the head of cancer are gathered a great many things which probably are ætiologically widely different, and we all know that our notion of malignancy is a most elastic one. We know that some of these malignant growths are very slow in doing their deadly work, while others kill almost like acute infections caused by virulent poisons or toxines.

While I am reasonably certain from my own observations and experiments that some forms of cancer are purely of extraneous or parasitic origin, I am convinced that the great majority of tumors, benign as well as malignant, are developmental in their origin. It will be shown that the large majority are referable to some ancestral inherited defect. The vast majority of tumors will be found to be traceable to a rudiment of an organ which ages ago played a more or less important part in the physiology of our progenitors. Drawing the logical conclusion from the facts that have been proved about the descent of man from forms of life which in a long, unbroken line have been developed on this planet since it cooled off to such a degree as to permit of the existence of life as we know it, we can truly say that we have almost infinite atavistic possibilities. Just as we now positively know that a congenital fistula of the neck is a remnant of a branchial cleft—of a gill, as it were—so will we some time in the future know how to explain the thousands of deformities and neoplasms, malignant as well as benign. The solution of the question as to the origin of tumors will come when the ontogeny and the phylogeny of the human animal shall have been worked out to a high degree by morphological, embryological, and biological researches. Much of this work I feel will be done on this side of the Atlantic by American students, in magnificent universities, richly equipped with all modern scientific apparatus in the finest laboratories on earth, endowed by the States and independent of the good will of the wealthy.

Before leaving the subject of the pathology and ætiology of tumors, I must refer to the Cohnheim hypothesis, which attributes the origin of tumors to a matrix of embryonal cells which lie dormant in the form of cell lumps or misplaced islands of cells in the tissues. In order for them to develop, a suspension or diminution of physiological resistance in the tissues (whatever that may mean) must take place in the vicinity of the hypothetical matrix. In the absence of this "matrix of embryonal cells," the possibility of a tumor is absolutely precluded. I suppose the diminution of physiological resistance would be furnished by traumatisms, irritations, inflammations, adverse conditions of life, such as climate, poor environment, hereditary encumbrances, old age, etc.

If the existence of a matrix of misplaced embryonal cells is ever supported by scientific proof, it will be found in the form of "rests," "vestiges," or rudimentary organs. These have great significance when viewed from the developmental standpoint. Here, as elsewhere in the social and natural sciences, evolution will be the torchlight that will lead us out of darkness and ignorance into light and knowledge.

Let us now turn to the practical side of our subject and see what we can do in the way of treatment of malignant tumors. In the middle ages, when it was believed that an omniscient and watchful Deity distributed cancers among sinners as in his wisdom he saw fit to do, prayers were the logical remedy to be employed, and we have records of cures by this means. We also have certificates of cures of cancer by the more modern Christian Science, and the pamphlets sent out by the promoters of health resorts and of many natural springs contain plain statements of cases of cancer which were cured by the air and the waters of these springs. Several times in my life as a surgeon patients have come to my office bearing scars upon their bodies which they claimed were the scars of former cancers that had been cured by the waters of some springs or by the pastes of some quack. In every single instance a careful investigation proved to me that the scars were those of syphilis or some more benign ulcer that had healed up rather in spite of than by virtue of the treatment they had undergone. The ignorant laity as well as designing fakirs are only too prone to call any chronic ulcer which does not yield to ordinary treatment a cancer. They do not know that the diagnosis of cancer is often very difficult and sometimes uncertain after all has been done that science offers. I have never seen a spontaneous cure of a cancer, nor have I ever seen one cured by medication of any kind whatsoever. The recently introduced methods of inoculation with erysipelas and other toxines, as well as the serum therapy of cancer, have now been amply tried and found wanting. I myself tried these methods in some cases which in my opinion were "inoperable," but could never record a permanent improvement, and, of course, a cure was out of the question. Where we find reports of favorable results of the inoculation treatment by good surgeons, we will usually find a statement that the pathologist found the tumor to be a spindle-cell or a small round-cell sarcoma. As above stated, the microscopic examination is not capable of positively recognizing or differentiating these forms of sarcoma from granulomata, or even from benign tumors which have their origin in the lymphatic or connective tissues. The pathologist was in error, and it is probable where a tumor recurs after an operation in or near the scar, and then disappears, that it is a granuloma, a keloid, or a benign fibrous or myxomatous tumor, or perhaps simply a thickened cicatricial mass, such as we sometimes find in the subcutaneous tissues after operations. These growths sometimes require months and even years for their final absorption.

I do not wish to disparage the serum therapy or the inoculation therapy, and not even the injection of pyoctanin or alcohol or any other chemical into the substance of inoperable cancers. These methods, or new ones more or less like them, should all be tried before they are condemned. They are deserving of elaborate trial, as we can not predict their effects *a priori;* and in inoperable cases the attending surgeon must, at least for psychical effect, if for no other, do something to encourage the unfortunate patient in order to keep him from despondency or suicide.

I must insist, however, that in all operable cases the surgeon has no right to temporize or put off the operation for a period of more than four or six weeks, and even that short time may injure the chances of a successful operative cure. Many of you will now ask, How can we draw the line between operable and inoperable cases? This, I will answer, is a purely relative matter, and what is inoperable for Dr. A. is operable in the opinion of Dr. B., and Dr. C. will perhaps consent to do the operation at once, and Dr. D. will even urge it and hold out good prospects of a successful operation, and, though a cure can never be promised, he will encourage the patient and inspire hope to such a degree that he will demand to be given the only chance of a cure which we have to offer.

The question as to the curability of cancer is finally and completely settled. Cancer, being a local disease in the beginning and spreading in the well-known way through the tissues by way of the lymphatics and the blood-vessels must be quite curable when it is possible to remove all the offshoots from the primary nodule. Clinical evidence and the observations of all surgeons who have been in the work for over fifteen years bear out this truth. Formerly, when cancer was regarded very generally as a constitutional affection, the operations were done with a view to merely prolong the patient's life for a short time, and a cure by operation alone was looked upon as hopeless. Thus the operator did his work in a half-hearted way, and, feeling that it could not achieve a complete cure, he did not feel justified in doing the extensive and formidable operations which we do nowadays. In the operation for the removal of the cancerous breast as it has been developed by Volkmann, Billroth, von Bergmann, and Halsted, and as I do it in every instance, the wound is larger in area than the wound made for the exarticulation of the lower extremity at the hip. Some of our most careful and conscientious surgeons require as much as three or four or even five hours for the complete operation of a cancerous breast. In my opinion the surgeon must be prepared to do a complete operation, no matter how long it may take to do so, because upon the perfection and detail of the extirpation of all the diseased tissues depends the result. In one case I removed the breast, all the pectoralis major muscle, all of the minor, a good part of the fascia of the external intercostal muscles, all the contents of the axilla except the nerves and vessels, and the clavicle, together with a large bunch of supraclavicular glands and soft parts. The lady has had no return. The operation was done over six years and a half ago. In cases of cancer of the breast I have seen slightly more than half free from return three years after operation in something more than two hundred and fifty cases. In the last one hundred cases, done over three years, I have evidence of only twenty-one recurrences. I may as well say here that a recurrence must be treated in the same manner as the primary tumor, by immediate and radical extirpation, and, should there be a return, this must be attacked in the same way until the case is cured or becomes plainly inoperable by the involvement of inaccessible parts. There again I am reminded that what to one surgeon might appear inaccessible, to another might be perfectly within reach of the knife and scissors. Only he who has seen good results follow extensive and complete extirpation of whole regions of the body, large parts of the intestinal tract, etc., will have the inclination to do this line of work. Each surgeon soon learns the limitations of his skill, if he is convinced of the usefulness of extensive extirpations of cancerous growths. Every once in a while he will have a facer when a patient dies of shock following one of his efforts to save a life. Deaths of this kind remind us of our limitations in such forcible and persistent manner that we are made to feel the responsibility of greatly endangering human life, even when that life is tainted by a destructive cancer. I remember at this moment some sleepless nights spent in going over and over in my restless brain the steps of a fatal operation, trying to find in what detail of the work I might have acted differently, perhaps better; how I might have saved the patient a few drops of the impoverished blood had I acted otherwise; how it might have been better if perhaps no morphine had been injected before the anæsthetic was given. Thus a thousand more or less fantastic ideas rack one's brain, keeping away sleep, while the body is tossed from side to side until, the problem still unsolved, sleep finally comes to the relief of the exhausted organism. A few nights of this kind will dampen the ardor of even the most enthusiastic operator, and unless Nature has fitted him for the work by having given him strength and such nerves and organs of sense as will enable him to stand the ordeal of hard work in the daytime and a sleepless night now and then, he will abandon surgery and devote himself to some other line of work in the profession. There seems to be no danger then that surgeons will often go too far in their operations for the extirpation of cancers by the knife. Until recent years under the influence of antiseptic methods operations were entirely inadequate because they did not go far enough. But now we have arrived at a stage in surgery where we actually operate for the cure and not for the amelioration of cancer cases. Thus it it will be seen that in recent years the object of operations for cancer has changed from a mere attempt at amelioration of suffering and prolongation of life to an attempt at a radical cure.

Let us now look at the limitations of the operative work. In examining a case of cancer the first question we must answer is whether or not there is any chance of curing the disease. The examiner will direct his attention to the lymphatics leading into and away from the diseased area with a view to detect any deposits or indurations in the same. He will also direct his attention to the lymphatic tissues some distance away from the cancerous growth, which may have become infected, though there be no visible or tangible change in them. Having determined these points, you can see that before beginning the operator knows what he will have to do. It will be his duty not only to remove all the plainly visible infected tissue, but also as much more of the surrounding tissues as in his judgment may be the seat of microscopic nodules or cell nests. If the operator deliberately sets out to cure a case of cancer he will make up his mind to remove all of the diseased and suspicious tissues, and, as you can readily see, the operation will be a much more extensive procedure than was formerly undertaken. Just for example, I will mention two of the most important points. In a case of cancer of the breast, if the tumor has grown outwardly, so as to affect the skin, it will be necessary to remove a large area of it, because cancer is known to spread most rapidly in the subcutaneous lymphatic spaces. In a case of cancer of the tongue, or again of the breast, if the cancer has invaded one or more of the adjoining muscles, it will be necessary to remove all of the affected muscle from its insertion to its origin, and even the fascia surrounding the muscles must be entirely removed. The cancer cells are known to travel in the large lymphatics of the muscle and the perimysium with great ease and rapidity; and if there is to be anything like certainty of cure these structures must be carefully and entirely removed. It is a good rule rather to remove more tissue than less, even at the risk of leaving impaired and crippled mobility of parts involved. You will judge from what has been said that an operation performed with a view of curing a patient of a cancer will become a much more serious one than the operation which simply aims at prolonging a patient's life by getting rid of the main trouble.

(*To be concluded.*)

HOME MODIFICATION OF COWS' MILK FOR INFANT FEEDING.

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Two things are desirable in the modification of cows' milk for infant feeding: First, a fairly accurate method of attaining the proper percentages of the various ingredients; second, a method of rendering these ingredients, as nearly as possible, in the same physical condition as they are found in woman's milk. Successful artificial feeding depends largely on the skillful combination of these methods so as to adapt them to each individual case. The preparation of an infant food must not be too complicated, and the ingredients and apparatus must be within the reach of all, under the ordinary conditions of life. Many good schemes fail because they are so difficult to apply. Percentage feeding certainly represents an advance, but it may be carried to a needless extreme. Complicated mathematical formulæ, even involving quadratics, have been devised, and expensive apparatus recommended to secure the needed percentages. The aim of the present paper is to procure a method that will be scientific enough for the average case and easy to apply in all cases. The first requisite is to consider cows' milk in the form in which it is everywhere procurable. There appears to be a fair grade of uniformity in the milk supplied by the better class of dealers. Government or municipal oversight, with a very close competition for the best trade, has compelled most dealers to exert great care in the production and handling of milk. An effort has been made by the writer to learn something of the actual conditions of the milk trade in Greater New York. There are in the boroughs of Manhattan, Bronx, and Brooklyn over fifty wholesale and retail milk dealers, whose capital ratings, according to the commercial agencies, range from $3,000 to $1,000,000. A list of questions was sent to these dealers asking, among other things, if they sold bottled milk to families and what percentage of butter fat they guaranteed. Nineteen replies were received, all from large dealers, their combined capital ratings being about two thirds of the entire capital invested in the milk business in these boroughs. These dealers guarantee their milk to run four per cent. fat and over, the least amount of fat being found in the spring months. A few of these dealers owned the cows producing the milk, but the great quantity of milk is collected by companies who have depots in various dairy districts and who buy from farmers and dairies. These companies have regular forms of contracts, which are generally based on the "Fifty Dairy Rules" of the United States Department of Agriculture. These contracts allow the companies' inspectors to examine the cows, stables, and utensils, regulate the manner of feeding, handling of milk, etc., and sometimes provide for notice to the company of any contagious disease in the family or help of the producer. The milk is brought to the depot at stated hours, morning and evening, cleaned if necessary, and immediately bottled and shipped either in boxes containing ice, or in refrigerator cars, and delivered within twenty-four to thirty-six hours after milking.

Milk should be aerated, strained, and cooled to 45° F. if for shipment, otherwise to 60° F., immediately after milking. Aerating removes the gases which impart the cow odor to milk, and cooling to 45° F. prevents the development of lactic acid. The germs of lactic acid thrive at temperatures between 80° and 100° F., but are almost inactive at temperatures below 50° F. Milk bottled under these conditions and kept below 45° F. should keep in good condition for sixty hours after milking, as stated by Wing. Van Slyke, in a series of investigations extending over several years, and including the milk of not less than fifteen hundred different cows, found that as the percentage of fat increased, the percentage of casein increased in a nearly constant ratio; or, to quote his own words: "While we have noticed considerable variation when we consider individual herds, we have found that, as a rule, there were two thirds of one pound of casein for each pound of fat in the milk, whether the milk contained three or four per cent. of fat, though this normal relation was considerably affected in the season of 1893 by the effects of drought upon the pastures. . . . When the amount of fat in the milk increased beyond four and a half per cent. there was a gradual but slight diminution of casein for each pound of fat." (New York Agriculture Experiment Station, Bulletin 68, New Series.) It is thus evident that the casein bears a nearly constant ratio to the fat. The fat in the mixed milk of a herd of cows seldom falls below three per cent. or exceeds five and a half per cent. Probably four per cent. is a general average, and, as noted above, the majority of reputable milk dealers in this vicinity guarantee this amount. Fourteen quart bottles of milk from various dealers in New York and Brooklyn, bought at various times and assayed, showed an average of about four per cent. fat in the whole milk.

For over thirty years there has been in use in the dairy industry what is known as the "deep-setting" process of creaming. This process consists in putting milk into tall narrow vessels and cooling to about 40° F. After twelve to twenty-four hours practically all the fat of the milk will be found in the creamy layer, the skimmed milk often containing no more than a fifth of one per cent. fat. Milk bottled in the country and kept cool during the twenty-four to thirty-six hours before delivery is subjected to the conditions necessary for successful "deep-setting" creaming, and usually contains a layer of cream in the neck of a quart bottle between three and four inches deep, measuring from the top, or about six fluid ounces (Fig. 1). The line separating cream from skimmed milk is distinct. The usual quart milk bottle is about nine inches high by three inches and seven eighths in diameter and holds a scant quart, often only thirty-one fluid ounces. The cream in the neck of the bottle is not uniform in composition. Six samples were drawn with a pipette from the creamy layer of a quart of five-per-cent. milk, commencing at the upper surface of the cream, which tested twenty-eight per cent., twenty-four and a half per cent., twenty-one and a half per cent., sixteen and a half per cent., fifteen per cent., and eleven and a half per cent. fat. Slightly over six fluid ounces of cream were taken from this bottle, the average test being seventeen and a half per cent. fat. The remaining skimmed milk tested one and two fifths per cent. fat. That the "deep-setting" process of creaming applies to bottled milk, and that handling the bottle disturbs the cream very little, is shown by the following tests: A quart of bottled milk was bought from a well-known dealer. Six ounces of cream were removed and mixed, and two tests showed twenty-three per cent. fat in the cream. The twenty-five fluid ounces of skimmed milk were mixed and tested two fifths per cent. fat. A quart of milk was bought in the country, put in a quart milk bottle, and set on ice for twenty-four hours. Six fluid ounces of cream were removed, and two tests showed nineteen per cent. fat. The twenty-five fluid ounces skimmed milk tested three fifths per cent. fat. A quart of selected bottled milk, supposed to contain five per cent. fat, was carried on a journey of twenty miles on a train. Without allowing it to stand, seven fluid ounces of cream were removed, which, tested twice, showed eighteen and a half per cent. fat. The twenty-four and a sixth fluid ounces of skimmed milk tested one per cent. fat. It is evident, therefore, that a natural separation takes place in milk that is placed in bottles and preserved from fermentation for a certain length of time by being kept cool. This is exactly how most high-grade milk is served by the dealers. It must be cleansed, aerated, and carefully bottled in the country. Then when it is delivered to the consumer in twenty-four to thirty-six hours, the "deep-setting" process of creaming has practically taken place, and the different layers may be removed and mixed in any proportion, without further manipulation or separation. Unless the creamy layer is distinct when such milk is delivered, it is probable that bottling has not been done in the country, but in town. Not only is the proper creaming thus interfered with, but the chances of contamination increased. By thus mixing cream and skimmed milk, as it were *in situ*, in certain proportions, there is a certain relation between the fats and proteids that may be utilized in feeding the infant. In the home modification of milk by means of this bottled milk the cream is readily and accurately separated from the under milk by means of a dipper measuring exactly one fluid ounce (Fig. 2). Quart milk bottles all have substantially the same kind of neck, and the dipper has been made to easily fit into any of these bottles, after an inspection of a large number. The very top layer of cream is taken off with a teaspoon, and the dipper thus filled

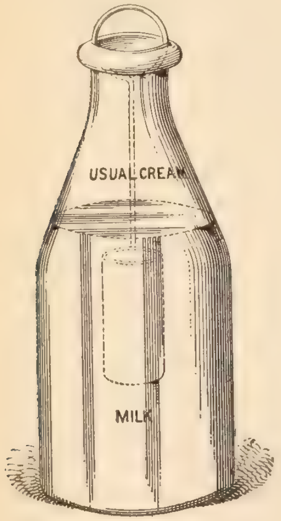

Fig. 1.—Quart bottle of milk with dipper *in situ*.

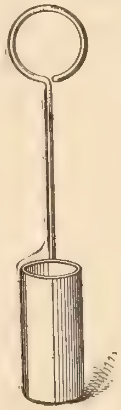

Fig. 2.—Dipper holding one ounce.

and the first ounce removed, otherwise the milk would spill over when the dipper is let down. The successive ounces of cream are then easily removed without jarring, siphoning, or other manipulation. While it is not easy to test the proteids in milk, we are taught on good authority that they nearly equal the fat in milks up to four and a half per cent. fat. Avoiding small fractions, cream with twelve per cent. fat would have three times as much fat as proteids (twelve per cent. fat and four per cent. proteids); ten-per-cent. cream would have two times and a half as much fat as proteids (ten per cent. fat and four per cent. proteids); eight-per-cent. cream would have twice as much fat as proteids (eight per cent. fat and four per cent. proteids); six-per-cent. cream would have one time and a half as much fat as proteids (six per cent. fat and four per cent. proteids). Almost any desired percentage of fat or proteids can be procured by diluting these creams, using the cream that contains the desired ratio between fat and proteids. Having at hand a bottle of milk which has separated into two layers, one very rich in fat and the other very poor in fat, the problem of getting a cream of any desired percentage of fat consists in mixing the very rich milk with enough poor milk to reduce its percentage of fat to the point desired. In practice, creams containing twelve per cent. and eight per cent. fat are most useful. If it were possible to completely separate the fat from a quart of four-per-cent.-fat milk, nearly eleven fluid ounces of twelve-per-cent.-fat cream could be had, or sixteen fluid ounces of eight-per-cent.-fat cream. In the "deep-setting" process of creaming, about ten per cent. of the total fat is left in the skimmed milk, so we would naturally expect to get only nine tenths of the theoretical quantity of fat in the creamy layer. In practice, where it is desired to have fat three times the proteids, make a twelve-per-cent.-fat cream by taking the first nine dippers of cream and milk from a quart bottle on which the cream has risen, as shown in the illustration, and mix. Result, nine fluid ounces cream—about twelve per cent. fat, four per cent. proteids, five per cent. sugar. What is not needed of the nine fluid ounces can be put back into the bottle. For any quantity of food containing fat three times the proteids, use this formula with twelve-per-cent. cream.

Dilution of twelve-per-cent. cream = twelve per cent. divided by desired percentage of fat.

Fluid ounces twelve-per-cent. cream = desired fluid ounces food divided by dilution.

Sugar = desired fluid ounces food divided by twenty.

Diluent = desired fluid ounces food minus fluid ounces twelve-per-cent. cream.

Example.—Desired twenty-four fluid ounces food containing fat, three per cent.; proteids, one per cent.; sugar, six per cent.

Twelve per cent. ÷ three per cent. = four dilution.

Twenty-four ÷ four = six fluid ounces twelve-per-cent. cream.

Twenty-four ÷ twenty = one ounce and a fifth sugar.[*]

Twenty-four − six = eighteen fluid ounces diluent.

When it is desired to have fat two times the proteids, take the first sixteen dipperfuls of cream and milk out of a quart bottle and mix. Result, sixteen fluid ounces cream about eight per cent. fat, four per cent. proteids, five per cent. sugar. What is not needed of the sixteen ounces can be put back in the bottle. For any quantity of food containing fat two times the proteids use this formula with eight-per-cent. cream.

Dilution of eight-per-cent. cream = eight per cent. divided by desired percentage of fat.

Fluid ounces eight-per-cent. cream = desired fluid ounces food divided by dilution.

Sugar = desired fluid ounces food divided by twenty.

Diluent = desired fluid ounces food minus fluid ounces eight-per-cent. cream.

Example.—Desired forty fluid ounces food containing fat, four per cent.; proteids, two per cent.; sugar, seven per cent.

Eight per cent. ÷ four per cent. = two dilution.

Forty ÷ two = twenty fluid ounces eight-per-cent. cream.

Forty ÷ twenty = two ounces sugar.[†]

Forty − twenty = twenty ounces diluent.

It is believed that this method is sufficiently accurate in attaining average percentages to be applicable in the modification of cows' milk. What is needed in a given case is a dilution of cows' milk that will agree with the baby we are trying to feed. Every physician can vary the strength of the milk by directing the number of ounces to be dipped out of the bottled milk, and thus tentatively reach the strength that is suitable for the infant's digestion. A heaping dipperful of granulated sugar weighs an ounce, and a dipperful and a half of milk sugar measures appreciably the same weight. After having attained the desired percentages, the next step is to get the cows' milk, as nearly as possible, in the same physical condition as woman's milk. As is well known, the proportion of casein coagulable by acids is greater in cows' milk than in woman's milk, and the clot in the former case is tough and tenacious in character. The best method of acting on the casein of cows' milk in the way of attenuating and modifying the clot is by properly diluting the milk with a decoction of the cereals. It is also believed that dextrinizing the gruel before thus using it will often prove a distinct gain by enhancing its attenuating powers and increasing the ease of assimilation. The curdling of milk by gastric juice or rennet must not be confused with the precipitation of casein by an acid. Rennet is a clotting enzyme which changes casein into a semifibrous mass that has a strong tendency to contract and harden, especially on the outside. Lactic acid accelerates the action of rennet, and the rapidity with which the curds contract and harden depends largely upon the quantity of lactic acid present. Rennet will not coagulate casein in the absence of the salts of lime. Milk that has been dialyzed to remove the salts or milk that has been boiled or Pasteurized will not coagulate well with rennet. In Pasteurizing or boiling milk, the albumin is coagulated and seems to envelope the lime salts, as the scum of boiled milk is rich in lime. After the addition of limewater and a little salt to dialyzed, Pasteurized, or boiled milk, rennet acts with great ease. Limewater contains about ten grains $Ca(OH)_2$ to the pint, so the beneficial results obtained by adding a small quantity of limewater to milk probably do not come so much from such a feeble effort at neutralizing the acidity of the milk as by allowing the rennet to act to better advantage. Plain gruels and milk, with rennet, form rather gelatinous curds. Upon dropping them into a solution of iodine and iodide of potassium they will at once be colored blue. After washing and breaking the curds it will be seen that the blue color does not extend into the curd, and that there is no yellow coloration, showing that the proteids are not exposed. In a gruel of the same strength, if the starch is dextrinized and mixed with milk and rennet, a curd will be formed that falls apart upon slight agitation. Drop some of this curd into the solution of iodine and iodide of potassium and it will be colored yellow, showing a larger surface of proteids exposed. The reason dextrinized gruel has such an effect on the curd is that, as the starch has largely been converted into soluble forms, the gruel is composed, in great extent, of the cell walls of the cereal from which it was made. This cellulose is very flocculent, and when dispersed through the curd tends to prevent contraction; and, as there is little adhesive material present, the curd breaks apart easily. This explains why the "flour ball" sometimes gives better results than a plain gruel, as the starch is more soluble than in plain gruels. It is thus an advantage to change the starch, which acts as a coating to the proteids in plain gruels, into dextrin, which is soluble, and thereby more freely expose the proteids to the action of the gastric juice. According to Schiff, dextrin provokes the secretion of pepsin, either when absorbed from the stomach or injected into the blood; hence this would be a theoretical point in favor of dextrinized gruels. Pancreatic trypsin is totally inhibited by .05 per cent. of lactic acid,* and as there is little ptyalin and trypsin secreted by suckling animals, the presence of fermenting starch may completely derange digestion.

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[*] As food made by diluting cream four times will contain about one per cent. sugar, and by diluting twice about two per cent. sugar, it will be necessary to add five per cent. more, or one twentieth of the ounces of food.

[†] *Ibid.*

The older method of acting upon the starch of cereals by prolonged heating may be superseded by dextrinizing the gruel with diastase, which is rapid and simple. Most of the commercial malt extracts are sufficiently active in diastase to produce the desired effect. The writer, however, prefers the use of diastase itself, as being both speedy and efficient. It can either be produced cheaply at home or purchased at the nearest drug store. A simple decoction of diastase may be made as follows: A tablespoonful of malted barley grains, crushed, is put in a cup and enough cold water added to cover it, usually two tablespoonfuls, as the malt quickly absorbs some of the water. This is prepared in the evening and placed in the refrigerator overnight. In the morning the water, looking like thin tea, is removed by a spoon or strained off, and is ready for use. About a tablespoonful of this solution can be thus secured and is very active in diastase. It is sufficient to dextrinize a pint of gruel in ten or fifteen minutes. The following preparations are procurable if one does not care to prepare the diastase: Forbes's diastase, taka-diastase, Fairchild's pancreatic diastase, and an active glycerite of diastase known as Cereo, which is made for dextrinizing gruels.

NOTES ON

URETHRAL CATHETERISM, CATHETERS, AND BOUGIES.*

By J. W. S. GOULEY, M. D.

1. These annotations are intended as hints to physicians who have not yet become experts in the art of urethral catheterism,† and as warnings to auto-catheterists who have not acquired the skill and experience needed to cope with difficulties such as are often encountered in the use of bougies, sounds, and catheters. Under ordinary circumstances, few manipulations seem simpler and easier than the passage even of a rigid catheter to relieve a distended bladder. But let a wrong direction be given to the instrument's point, or be there some other obstacle to its progress bladderward, such as a stricture or an enlarged prostate, the

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* The following works have been much consulted in the preparation of this paper: *The Soluble Ferments and Fermentation*, by J. Reynolds Green, Sc. D., F. R. S., Cambridge University Press, 1899. *A Text-book of Physiological Chemistry*, by Olof Hammarsten, translated by John A. Mandel; New York: John Wiley & Sons, 1897. *Milk and its Products*, by Henry W. Wing; New York: The Macmillan Company, 1898. *Physiological Botany*, by George L. Goodale, A. M., M. D.; New York: Ivison, Blakeman & Co. U. S. Department of Agriculture, *Farmers' Bulletins*, Nos. 29, 42, 63.

* Read before the New York County Medical Association, October 16, 1899.

† The inexact term *catheterization* is too often used by writers and teachers instead of catheterism, derived from the Greek *καθετηρισμός*—a putting in of the catheter—which is Latinized into *catheterismus*, Gallicized into *cathéterisme*, and Anglicized into *catheterism*.

catheterist's tribulations begin. He is baffled, he loses self-control, his mind and hand wander, and he is oblivious of the relative anatomy of the urinary conduit and of the character of its texture, which, unfortunately for the patient, a high authority has advised him to "forget!" Before recovering from his mental confusion he makes a desperate, violent onward push that sends the catheter, perhaps an inch or two inches, into the ambient tissues, to the great distress of the sufferer, who, seeing blood issue instead of urine, frantically clamors for relief or pitifully groans from the pain inflicted, and is soon utterly demoralized. The picture just drawn is but a sketchy outline of what often occurs from unskillful catheterism. Urethral laceration, false routes, and other accidents are generally averted by observing the rules given, from the Celsian age to our time, for the performance of this delicate operation.

2. The term catheterism is used not only to convey the idea of putting in a hollow tool for the relief of a bladder full of urine, but for the introduction of instruments designed to explore or to irrigate the urethra and bladder, to crush vesical stones, to dilate the strictured urethra, or to remove foreign bodies.

3. For the sake of beginners, it may be well, before going further, to premise a short account of the history, nature, names, uses, and care of some of the instruments employed for catheterism. Of the history, young physicians need to learn enough to be cautious in their assertions and in their claims to new inventions or modifications, and thus elude the literary fangs of the carping critic, or escape many acrimonious controversies. Of the nature, names, uses, and care of surgical instruments, the knowledge of hospital internes is sadly deficient, and ordinarily they care little for instruction in these particulars. The consequence is that ill-used instruments are soon cast away or relegated to the cutler, into whose hands they are too often delivered in a hopelessly damaged condition. Consistency in asepticism and success in treatment demand that the young physician shall know how to take proper care of his instruments, besides understanding their principles of construction and action, and being able to put together, for immediate use, those composed of several parts, and to dismount them for cleansing. Some surgical works indicate the manner of accomplishing these purposes, but object lessons are indispensable. The interne should, therefore, frequently visit the surgical arsenal, examine the instruments with care, take them apart and remount them, from time to time, until he shall have acquired the needed knowledge.

4. It seems highly probable that tools for drawing off urine from the bladder were devised long before the solid dilators. In all likelihood the original catheters were straight reeds, curvature being the outcome of mature experience. The first authentic account of curved hollow cylinders was given by Celsus, who described them as copper pipes of a length of fifteen fingers' breadth, and gave directions for their use in ridding the bladder of accumulated urine. Good examples of these curved metal tubes were unearthed from Pompeii.* The word catheter was employed by Hippocrates to signify any kind of tent for introduction into fistulous tracts following wounds, but the hollow cylinder for drawing urine from the bladder is not mentioned by that encyclopædic writer; it was, however, Latinized by the Romans, and is used in some of their works to signify an instrument for drawing urine, named by them *fistula*, or *syringa*, a pipe. They used the word *specillum*, which is equivalent to probe, for what in English is now named a sound, and catheter for the tubular instrument designed to empty the bladder. For probe the Spanish use the word *tienta*, from *tentare*, to search into. *Catheter* literally means a thing to let down or put in, from κατά, down, and ἰέναι, to send; or from καθίεναι, to introduce, to send down. *Sonda*, sound, is from *subundare*, to submerge—*sub*, under, and *unda*, a wave. *Algalie* and *algalia*, used by the French and Spanish, are from the vulgar Latin *argalia*, from the vulgar Greek ἀργαλεῖον, which is derived from the classic Greek ἐργαλεῖον, meaning a tool, an instrument.

5. From what precedes it is evident that the terms sound, catheter, and algalia do not imply that the instruments are solid, hollow, or even cylindrical, or that the catheter or algalia is intended to draw off any fluid; therefore, these arbitrary names are absolutely inexpressive, but, by general consent among English-speaking people, are employed to signify the one a solid cylinder, and the other two hollow cylinders. Aside from the inappropriateness of the names employed to designate these instruments, they are too often confounded, owing to a lack of general consensus among nations as to what should be the precise designation of each instrument. Solid metal cylinders are used to sound the bladder, but hollow cylinders are also used for the same purpose. A catheter, in the English sense, is often employed as a stone searcher, but a sound, in the same sense, can not be utilized in drawing off urine, since it is a solid cylinder. The instrument ordinarily called in English a sound is intended not only to sound the bladder, but to dilate the strictured urethra. As already noted, these terms are used in entirely different senses by several nations, notably the French, Italian, and Spanish, who call *sonde, sonda, algalia*, the instrument named catheter by the German, English, and American nations. It is hoped that more distinctive

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* A kind friend purchased, at Naples, and gave to the writer an excellent *replica* of one of the curved Pompeiian copper or bronze catheters. It shows the sigmoid figure (adopted by Petit two centuries ago); the single eye appears to be rectangular, and is two millimetres in breadth, six millimetres in length, beginning at seven millimetres from the point, along the inner aspect of the curve and not on the side, as is the catheter eye of the present time; the vesical extremity, for a centimetre, is conical; the shaft is thirty centimetres in length, and the calibre six and a half millimetres—equal to No. 10 of the English scale.

and accurate names will eventually be given to these tools, but the question of rightly naming them can only be settled on a proper basis by duly delegated persons representing the medical profession of the nations. For the present, in English, let it be understood that catheter is intended to designate an instrument for drawing fluid from a cavity, and sound, an instrument for sounding and for dilating.

6. Catheters and other tools designed for "putting into" the urethra and bladder should be examined with reference to the substances of which they are composed, to their form, to their calibre, to their cavity, to their apertures, to their curvature, to their length, to the shape of their proximal and distal extremities, and to their adaptation to the particular uses to which they are destined. This study is of much importance in consideration of the fact that catheterism is performed so often and for so many purposes besides drawing off urine.

7. The composition of catheters has a long and interesting history, of which, however, a brief abstract only is needed for the purposes of this note. It has already been stated that tubes for drawing urine from the bladder were originally non-metallic; that the precise time when metals, such as copper and bronze, were employed in their construction is unknown, and that the first written evidence of the use of metallic catheters is from Celsus, but that they were in common use long before his time. The metals long afterward employed in the fabrication of catheters were lead, tin, silver, and gold, and very recently German silver and aluminum bronze. The urethral false routes so frequently made by incautious catheterists with rigid metallic cylinders induced surgeons to devise divers means to avert the danger, without thinking that these accidents were owing more to the performer than to the instrument. Leaden catheters were used in the ninth century by Rhazes on account, as he believed, of their adaptability to such forms as might be suggested by contortions of the diseased urethra. Later, narrow bands of silver, twisted spirally, were made into catheters. Of such material, the spiral catheter of Solingen covered with leather (1684) and the vermicular catheter of Roncalli (1741) were made. From the times of Solingen and of Roncalli the same principle of action of these catheters has been carried out by many surgeons, and nearly all spiral or vermicular instruments have since been described as new inventions.*

8. In the beginning of the eleventh century, Avicenna used soft catheters made of the skins of different animals, coated with some sort of varnish to protect them from the action of the urine. Fabricius of Aquapendente was the inventor of horn catheters and of others made of bands of linen coated with wax. Catheters of chamois and of dogs' skins were used by Van Helmont and by Troja. Those of ivory gelatin, prepared by immersion in dilute hydrochloric acid, were invented in 1832 by Cazenave, of Bordeaux, who, in 1842, read a paper on the subject before the Paris Academy of Medicine. These catheters were used by few surgeons besides Cazenave, and are now regarded as mere curiosities, although the inventor strove to revive their use by publishing, in 1875, an extended essay on their merits.

9. This brings us to the consideration of the soft catheters in use at the present time and known as "gum catheters"; but before this a brief summary of their evolution will be made. One of the first hints, though not the earliest essay, emanates from Hérissant, who in 1763 suggested that India rubber dissolved in ether might be used with advantage in the fabrication of catheters and bougies, and Thedn, of Berlin, carried out the idea by coating silken cylinders with an elastic varnish dissolved in ether. Cazenave gives a formula of the varnish for coating soft catheters, but does not say whether it was ever employed by Laserre or by any of the other manufacturers of so-called gum instruments. It is as follows: One part of linseed oil boiled with litharge, one third of a part of succinum, one fourth of a part of oil of turpentine, and one twentieth of a part of India rubber. In 1779, Bernard, a jeweler, of Paris, presented to the Academy of Surgery soft, flexible catheters and bougies made by him, with the object of substituting them for metallic and wax instruments. These catheters and bougies were then called gum-elastic instruments, and are still styled in France *instruments en gomme*, but it was soon ascertained that no India rubber entered into their composition. They were made of a silk fabric coated with boiled linseed oil, and dried and polished. Dr. Pickel, of Würzburg (1785), published the following formula for making the varnish of the so-called gum instruments: One part of melted succinum, one part of oil of turpentine, and three parts of common cabinet-maker's varnish, which consists of linseed oil boiled with white litharge, subcarbonate of lead, red oxide of lead, or sugar of lead. This mixture was used to coat a catheter or bougie of silk fabric. After three such coats the instrument was dried in an oven at a temperature of 70° F. for twelve hours, and then polished with pumice. It afterward received from fifteen to eighteen more coatings and was dried and finally polished with oil and tripoli. This process has since been variously modified, simplified, and improved; some of the makers using entirely different coatings, some of which contained none of the substances mentioned in Pickel's formula. The exact nature of the several processes of catheter and bougie making now employed in France, Germany, England, and the United States is not known, because each manufacturer has secrets of his own in the way of braiding the cylinders, in the composition of

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* Several years ago Dr. Stuart Eldridge, of Yokohama, gave the writer an admirably worked spiral catheter, made, it is supposed, by a Japanese artisan—when, the donor could not ascertain.

the material for coating the braid, and in the manner of its application; in the method of polishing, and in the time consumed for the perfection of the instruments. The interior of the instrument should be as thoroughly coated and nearly as smooth as the exterior, otherwise it is soon fouled and infected with micro-organisms. The best quality of silk should be used in the preparation of the cylinders and the braid should not be too close. The coating should be translucent and highly elastic, and should not be so thick as to render the braid invisible.

10. Great quantities of inferior catheters and bougies are still imported * and sold in different parts of this country. Their framework is of cotton coated with a varnish which hardens and soon becomes so brittle as to crack transversely all along the shaft, each crack being a fit lodgment for colonies of bacteria besides being a point of election for fracture.

11. Trials made with divers kinds of flexible web catheters, treated with ordinary care, have given results worth recording. Lisle-thread and linen catheters, after being used fifteen or twenty times, often show many transverse cracks close together in a space extending four or five inches from the eye, and are thereby rendered unfit for further use; while in many instances good silk catheters used several times every day were free from cracks and in good condition after having been so used two hundred, and even three hundred times. Physicians will find it to their advantage to decline purchasing any but the best silk-web catheters, for, though their first cost is nearly double that of the others, they are so much more durable than the Lisle-thread or linen instruments that in the end they are the cheapest and least liable to break, while they can, without injury, be disinfected by means of formaldehyde vapor. It should be noted that nearly all these catheters harden when kept idle for a long time, and are to be cast away as soon as they lose their suppleness, for it is then that they are most likely to break during introduction or extraction. For use in warm climates a special coating is given to catheters and bougies, otherwise they stick firmly together and are thus spoiled unless dusted with talc.

12. The silk-web and the India-rubber catheters now replace very advantageously the metallic for drawing off urine, and few physicians think themselves warranted in using for that purpose instruments of metal or of any other rigid substance, except in certain conditions of the urethra requiring catheterism upon a conductor, or in cases of false routes relievable only by Mercier's invaginated catheter. The so-called silver prostatic catheter, with extraordinary curve and length, is a thing of the past which—with all due respect and veneration to Sir Benjamin—seems as if it had been intended for a urethral lacerator and prostatic plow, although, in good hands, it has often passed into the bladder without causing serious injury. The ordinary curved, elbowed, and double-elbowed web catheters, which average fourteen inches in length, answer well for drawing urine in cases of the very largest prostates, and the so-called prostatic web catheter of exaggerated curve is worse than useless. The writer has never seen a case requiring the use of this unsightly and unhandy instrument of torture. The catheter with funnel-shaped distal extremity for insertion of the irrigation nozzle is a superfluity on a par with the apertures for cat and kitten; only here the kittenish opening is the better, because safer, since, for obvious reasons, it is not wise to force a large and rapid stream into any bladder needing irrigation.

13. All sorts of fanciful catheters of silk, linen, ramie, or cotton web, or of caoutchouc, with wings or other projections near the vesical end, have been invented in the past thirty years, and soon rejected as worse than useless. One of these, in the writer's collection of confiscated catheteric curiosities, is of vulcanized grayish India rubber with a rich golden-yellow raw-silk thread wound spirally around the whole shaft—suggesting a fit habitat for millions of tiny organisms. The length of this extraordinary tool is fifteen inches and a half; its diameter corresponds to No. 10 of the English catheter scale; its countersunk eye is blind, for it had never been cut open, and it is probably the only specimen that had been made by the house of Tiemann

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* It may be interesting to know how much the catheter industry has increased in this country, and to what extent importation has lessened in the past eight years. The following figures, obtained from one of the manufacturers, show the number of imported English, French, and German soft catheters and bougies in 1891 and 1898, and the number manufactured in the United States:

	1891.	1898.
Cheap commercial catheters, English....	300,000	125,000
Better qualities of catheters, English....	40,000	15,000
Better qualities of catheters, French....	35,000	20,000
Better qualities of catheters, German...	10,000	15,000
Soft India-rubber catheters, English....	30,000	None
Cheap commercial bougies, English.....	45,000	20,000
Better qualities of bougies—English, French, German..................	15,000	10,000
Total imported................	475,000	205,000
Cheap commercial catheters, American..	100,000	350,000
Better qualities of catheters, American..	275,000	300,000
Soft India-rubber catheters, American...	170,000	250,000
Cheap commercial bougies, American...	30,000	50,000
Better qualities of bougies, American...	20,000	30,000
Total home-manufactured.......	595,000	980,000

Thus, in the lapse of a few years, this industry has been developed to a degree which has already permitted in a year the exportation of one hundred thousand web catheters to England, Ireland, Scotland, France, Germany, Spain, South America, Australia, and India. There is also a large export trade in rubber catheters. These American catheters and bougies are fully equal to those manufactured in foreign countries, and some of them are even superior, notably the commercial and the best woven-eye silk catheters, as will be seen by a comparison of the tensile strength and of the quality of the varnish of the different instruments in use. The American (Tiemann's) India-rubber catheters are superior to those of foreign importation in the construction of the eye, in the high polish of their surface, and in the smoothness of their interior.

& Co. Internal or external reenforcements for rubber catheters invite uncleanness. Those who invent such accessories do so with the idea of remedying the flimsiness of thin-walled catheters, which makes their introduction so difficult, whereas the desired object is so simply accomplished by giving each instrument sufficiently thick walls without much interference with the needed calibre of its lumen.

14. The properties of good web catheters may be stated as follows: 1. They are thoroughly, but not too thickly, coated with varnish inside as well as outside and highly polished; the varnish is pliable, not apt to crack, and resists the action of moist heat up to 212° F. (Early in 1899, the Ellwood Lee Company revived the translucent catheters, which about fifteen years before had a short vogue on account of their easily stripped thick coating of collodium. The new varnish used by the Lees in a comparatively thin layer is far superior and promises better results. It is, however, still on trial. Another elastic varnish, the "pegamoid," of secret composition, has lately been suggested for coating catheters.) 2. In length they need not exceed thirty-three centimetres (about thirteen inches). 3. In diameter they vary from two to nine millimetres. 4. The distal extremity of their single oval eye is one centimetre from the point, which is smooth and rounded; this eye, in curved,* elbowed, and double-elbowed catheters, is generally lateral, but in some of these instruments the eye is superior, corresponding to the concavity of the bend, and in other cases the eye is omitted, the catheter being open at both ends, or, in addition to the eye, the vesical end is open for catheterism upon a whalebone conductor. 5. Good web catheters are firm but pliable, never rigid, from the proximal to the distal end; a web catheter with a rigid vesical extremity is a dangerous instrument, liable to cause false passages in the deeper regions of the urethra. 6. The form of the vesical extremity is in accord with its intended uses; straight web catheters are not so safely and easily used as the curved, elbowed, or double-elbowed, the curved form being the most easily introduced into strictured urethræ and in the majority of cases of enlargement of the prostate. 7. The tensile strength of the different qualities of web catheters was ascertained by experiment to be as follows: That of an English commercial catheter was forty-two pounds, that of an American commercial catheter was fifty-four pounds, that of an American Lisle-thread catheter was fifty-six pounds, that of an American silken-linen catheter was sixty pounds, and that of an English silk-web catheter was eighty-five pounds. An American silk-web catheter of best quality was then tested to one hundred and fifteen pounds without breaking, but the varnish was stripped off at each end.

15. When it is necessary to retain a catheter in the urethra and bladder, the physician should select one which has not been too thickly coated with varnish. The highest grade of catheter is not always the best for this purpose, because in the course of twenty-four hours the urine filters through the internal wall of the catheter, the silk webbing is saturated, swells irregularly, and uplifts here and there the coating of varnish, which soon scales off; while the Lisle-thread, silken-linen, and those silk catheters with thin external coating resist longer the action of the urine, and do not lose their smoothness after being retained forty-eight hours in the bladder. If, however, the interior of all web catheters were thoroughly varnished, and thus rendered impervious to moisture, there would be no irregular uplifting of the surface and no scaling.

16. The American commercial catheters have lately been much improved in quality, and they may be found very useful in hospital as well as in private practice. Their cost is little as compared to that of the higher grades. A catheter of this kind may be used for a single day and thrown away, or may be repeatedly boiled without injury, and used as long as the surface of the instrument retains its smoothness. These improved instruments are known as "ten-cent catheters."

17. No catheter whose surface is fissured or otherwise roughened should be passed into the human urethra, because it would not only irritate this canal, but convey therein septic germs. For general use, physicians will find it advantageous to purchase the higher grades of web catheters, because, with proper care, they last long and retain their suppleness and smoothness. After having used an American silk-web catheter three hundred times, its surface was found to be as smooth as in the beginning. The instrument was then retired from active service to be preserved as an illustration of the excellence of home manufacture. Another American silk catheter was used twelve hundred times by a patient, and was set aside only because its surface had become irregular, although it was not cracked.

18. Web and rubber catheters are much injured by fats of all kinds, by glycerin, by saliva, and by vaseline, which, however, seems to be the least hurtful of these lubricants. If used at all, it should be in the smallest quantity—just enough to very thinly coat the catheter. Some physicians reject not only the fatty but all other lubricants, and think it sufficient to moisten the catheter with warm water. More soft catheters are destroyed by the excessive use of fatty substances than by any of the many other abuses to which they are subjected. Therefore there is need of a lubricant which shall not be irritating to the urethra, and which shall contain no fat and no free alkali to deteriorate the varnish of web catheters and soften rubber catheters. After examining different substances it was thought that a watery solution of dry soap, with the introduction of some ingredient to add lubricity to its viscidity, would

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* Sir Everard Home was the first surgeon to suggest that the tissue of web catheters be braided upon a curved stylet, in order to obtain a curved instrument which will always maintain its curve.

be likely to answer the purpose. Soap, deprived of glycerin and free alkali, is an efficient and unirritating lubricant, when mixed with a decoction of quillaja and duly sterilized. The following is a modification of the formula for a saponic lubricant, published in the *New York Medical Journal*, July 22, 1893:

℞ White Castile soap, powdered	℥j;
Water	f℥iij;
Mucilage of chondrus crispus	f℥iij;
Formalin (forty per cent.)	♏ x;
Thymol	gr. v;
Oil of thyme	♏ v;
Alcohol	♏ xv.

Mode of preparation: Heat the soap and water, and stir until a homogeneous slime is formed; then add the three ounces of mucilage (made of the strength of one ounce of chondrus crispus to the pint of water). When cool, pour in the formalin, then the thymol and oil of thyme mixed with the alcohol; stir, strain, and keep in a covered vessel until all air bubbles have vanished. The result is an opalescent, slimy substance, of the consistence of honey, which should be put up at once in two-ounce collapsible tubes and sterilized. The chondrus crispus is substituted for the quillaja of the original formula because of the objectionable quantity of alcohol in the tincture, and because quillaja decoction imparts to the mixture a dirty pinkish tint, whereas the chondrus crispus mucilage is colorless. The *Cetraria islandica* was tested repeatedly and found unsuitable. The lubricant, in its present form, is sufficiently viscid, adheres well to the surface of all instruments, does not lump, and is unirritating to mucous membranes. The same quantity of chloral hydrate, or half the quantity of chloroform, or thirty grains of boric acid, may be used instead of the formalin, if desired, since it is intended solely as a preservative of the mucilage.

19. All web catheters should be kept at full length, and never coiled; otherwise the varnish will surely crack.

20. Web catheters should be loosely wrapped in dry antiseptic gauze, and preserved in tightly closed metal cases until wanted for use.

21. Before using a web catheter, it should be sterilized in formaldehyde vapor and be momentarily immersed in warm Thiersch solution to prevent cracking of the varnish, particularly during cold weather.

22. After using a web catheter, it should be well washed by forcing a stream of water through the instrument, which should then be dipped for a moment in Thiersch's solution. It should then be thoroughly dried, wrapped in antiseptic gauze, and inclosed in a metal case. Catheters may be carried in hollow walking sticks, but never in the pockets of patients.

23. All web catheters are liable to harden, lose their suppleness, and be unfit for use in the course of a few years, especially when they have not been in use. On the first appearance of the hardening process, the instruments should be cast aside.

24. Soft India-rubber catheters should be kept at full length, never coiled, and should be wrapped in moist antiseptic gauze and preserved in tightly corked glass tubes, because exposure to the air leads to rapid oxidation, which causes the instruments to become hard and brittle.

25. Before using a rubber catheter, it should be sterilized in formaldehyde vapor and momentarily dipped in Thiersch solution warmed.

26. Rubber catheters become brittle in about two years, and sooner if unused and exposed to the air. But, when daily lubricated with fats, they seldom last more than three or four weeks, then swell, lengthen, and become so soft as to be liable to be torn across during withdrawal. Several inches of such deteriorated rubber thus often remain in the bladder.

27. When it is possible to teach a patient the use of the catheter, perhaps the safest instrument that may be placed in his hands is the "velvet-eyed" India-rubber catheter, which he must cleanse thoroughly before and after its employment.

28. Metallic catheters, with very few exceptions, should not be employed in attempts to relieve the distended bladder, because of their likelihood to damage the urethral canal and plow their way into the substance of the prostate, sometimes even when introduced with ordinary care. Being absolutely rigid, they can not readily follow the abnormal incurvations of the urethra common to multiform enlargement of the prostate. The so-called prostatic catheter is particularly dangerous, for it seldom reaches the bladder without detriment to the urethra, and too often finds lodgment in the recess of some false route, which, perhaps, it has made. When a false route renders impossible the passage of ordinary instruments, the contrivances known as Hey's and Mercier's modes of catheterism are generally successful, Hey's method consists in passing, as far as, but not into, the mouth of the false route, a silk-web catheter, No. 9 or No. 10 (English), armed with a curved stylet, which is withdrawn with one hand at the same moment that the catheter is pushed toward the bladder with the other hand, when the instrument overrides the false route and enters the bladder. Mercier's method consists in the use of two catheters, which together he has named the invaginated catheter.

29. India-rubber or caoutchouc catheters, known more than forty years ago, were little employed until the year 1873. The first were of pure caoutchouc and so flaccid that they easily collapsed. On this account vulcanization of the substance was resorted to in order to increase its firmness, but even then the catheters thus made gained little favor on account of their unpolished surface, their clumsiness, and their necessarily thick walls, which reduced the bore to a minimum. Sundry improvements in their construction were after-

ward made, and the first notice in this country of the improved catheters was given in 1873 by the late Dr. John D. Jackson, of Kentucky. These highly polished soft vulcanized caoutchouc instruments were styled Nélaton catheters and were made in Paris by Jaques. They were afterward further improved in New York and Boston. The attention of the manufacturers has been directed to several defects in the improved catheters. These defects are: 1. When the lumen is very large, it is at the expense of the walls; the instrument is then so flimsy as to be unfit for use. 2. When the walls are very thick, the lumen is too narrow. 3. When the oblong eye * is too broad and half an inch from the extremity, the instrument, during introduction, doubles upon itself at the middle of the eye, which is the weak point; this eye should therefore begin at about five millimetres from the extremity and be of the capacity of the lumen and no more. The lateral eye, however well made, being the point at which fracture is most common, may, with advantage, be omitted, and the instrument left open at the vesical extremity (such caoutchouc catheters with well-rounded ends were used for twenty years by a patient, who said that they never caused irritation and were of easy introduction). 4. When the vulcanized rubber used in the fabrication of catheters contains an excess of vulcanizing material, it soon hardens and becomes brittle, hence the frequent fracture of these instruments in the urethra or bladder; and when the materials are inferior or insufficient the catheters swell and lengthen greatly after being used for a short time.

(*To be concluded.*)

THE SHELDON MURDER TRIAL.

A REVIEW OF THE MEDICAL EVIDENCE RELATING TO PISTOL-SHOT WOUNDS OF THE HEAD.†

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THE recent sudden ending of a somewhat noted criminal case by the suicide of the accused person permits the publication of this review, written after a decision of the court of appeals had directed a retrial in the inferior court. The man had been convicted of murder and sentenced to death upon evidence founded in great part upon an observation of pistol shots made upon the cadaver, and upon the results of similar experiments in which various vegetable fabrics were substituted for the human tissues. This evidence challenges critical examination as to its pertinency and sufficiency, not only from its importance in this particular case, but, if accepted without question, in view of its effect as an established precedent.

The story of the tragedy is not romantic and the actors in it were plain people. A farmer returning from a visit to a neighboring village found his wife lying dead upon the pantry floor, and near by the pistol with which she had been shot through the head. An inquest was held, a post-mortem examination of the body made, a verdict of suicide rendered; and until after her burial no doubt was expressed that she had died by her own hand. Nineteen days later, by the procurement of her family, the body was exhumed and subjected to reexamination. The husband was then formally accused of her murder. It seems to have been practically conceded that she was alone in the house from the time of his departure to the village till his return, an interval of less than three hours, and that her death occurred immediately prior to that departure by his act, or during that interval by her own. There was no contention that the crime, if such it were, might have been committed by a third person; the issue was clearly made between suicide and uxoricide, and had to be decided upon purely circumstantial evidence and upon expert medical testimony.

The motive for murder was asserted by the prosecution to have existed in the immoral relations maintained by the husband with a former servant in his household, both before and after her expulsion from the family. This intimacy had continued for many years and had led to a separation of husband and wife, followed by a reconciliation based upon his promise of reformation and fortified by a bond of indemnity, and was still existent at the time of the alleged crime. A quarrel with his paramour was assumed, rather than proved, to have been of such a nature as to become the immediate incitement to murder.

The motive for suicide was ascribed by the defense to a chronic ailment of the wife, and to the shame and infelicity of her domestic life, from which there seemed little prospect of relief.

The circumstantial evidence, while indirect and to the lay mind insufficient to convict, and to some extent discredited and contradicted, undeniably afforded strong ground for suspicion. The medical evidence by which it was supplemented was direct and unequivocal, and if accepted without reservation could leave no doubt of the prisoner's guilt. It was founded upon certain experimental observations by which the post-mortem appearances presented in the case in question were interpreted. These appearances, as noted at successive necropsies and attested at the trial, were sworn to be in the light of such experiments incompatible with a supposition of suicide, and, as the possibility of accident was not considered, were taken to afford absolute proof of homicide. The post-mortem conditions of the wound and of the head as described by the several examiners were undisputed.

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* Multiple eyes in catheters of all kinds have long since been discarded for well-known reasons which need not be given here. Even two-eyed catheters are now among the curiosities of the surgical arsenal.

† Read before the Society of Alumni of Bellevue Hospital, May 3, 1899.

The body when first discovered was removed to a couch in an adjoining room, and after the arrival of relatives, who had been summoned, was still warm. It was superficially examined by the coroner from two to three hours later, and was said by him to have been then neither "cold nor warm," but whether or not cadaveric rigidity had begun he was unable to state. The head and both sides of the face were covered with blood, which was still flowing from the mouth, nose, and left ear. The bullet wound, round, clean cut, and about the size of a lead pencil, was found just above the tip of the right ear. There were no traces of smoke about the wound, and no powder grains imbedded; there was no singed hair noted, no burn of the epidermis, and no infiltration of gas. The right orbital region was swollen and blackened, and the hair was matted with blood. It was only after washing away the blood that the wound and several powder stains upon the tip of the right ear were discovered. Soap and water were freely used about the wound and upon the hair and left ear.

Two hours later necropsy was made by another physician who testified to the following facts: Rigor mortis incomplete; most of the natural heat of the body dissipated; right upper eyelid discolored; face clean; blood only in the left ear and in the hair of the right side of the head; "lock of hair over the right ear, covering an area as large as your thumb, which stood out in a fluffy condition, not matted, very loose, appeared to be singed"; a few of the hairs singed and curled over were easily discernible; powder mark on tip, and another, half an inch anterior, on rim, of the right ear; another on the temple; "such as grains of powder would make if they struck the skin when not ignited"; witness thought there were other powder marks, but could not swear positively; no grains imbedded; no infiltration of powder grains in the wound, and no powder smoke on the right side of the head; bullet wound not entirely round, elongated; subcutaneous tissues about the wound "very much discolored, not torn, but had more the appearance as though they had been pounded" (contused?); and beneath the bone, "where the bullet had entered the brain, parts were very much congested"; brain very soft and pulpy; fracture in left temporal bone just at left of orbit; bullet track through the brain directed a little forward and downward.

At the conclusion of this examination the head and hair were again thoroughly washed. The undertaker who did this testified that he was fifteen minutes in doing it, using three or four washbowls of water with soap and sponge, and that he also washed the wound with embalming fluid. A third washing of the head was afterward made by the mother of the deceased.

Nineteen days after burial, the body was exhumed and reexamination made of the wound and related parts by a chemist and several physicians employed by the prosecution. The observations made at that time were: body and head in a fair state of preservation; grave mold upon all parts exposed to view; slight odor of decomposition; wound over right ear, formerly round, and thirty-eight one-hundredths of an inch in diameter; scalp not lacerated; hair dry, crimped, fluffy, and evidently prepared for burial; hair burned at a spot above, a little in front of, and contiguous to, the bullet wound in an area of one fifth of a square inch, and after discovery the burning readily visible to the naked eye in a good light; a lock of hair, an inch and five eighths in front of the wound, crimped as though previously heated and wound around some object; hair not blown away from the wound; scalp and face clean, showing no trace of powder or smoke; ear clean, without powder grains or stains, and having a black spot five eighths of an inch wide upon its top with its centre directly opposite the centre of the bullet wound; no burning of the wound or skin; no imbedded powder grains, and no deposit of gas or smoke in the wound; osseous entrance lead-stained and cut through by the saw, leaving upper and lower segments perfect but with edges fractured; skull thin, two sixty-fourths of an inch in thickness at lower, and from three to five sixty-fourths of an inch at upper and lateral margins of the wound; bullet, which had passed through both temporal bones, lodged at a point an inch and three fourths in front of its point of entrance among lead-stained osseous fragments; discoloration of right ocular region. The brain, removed for examination at previous necropsies, had not been replaced. No deposit upon trigger finger, but the number of washings to which it had been subjected was unknown.

It was further stated by one of the physicians present at this necropsy that the burning of the hair contiguous to the wound extended downward closely to the skin, and that the hair was burned off. It was also learned from the same witness that a piece of bone, approximately half an inch wide and an inch long, was missing from the osseous wound; and that the spot upon the left ear, which looked like a blood blister, occupied the whole top of the rim.

Twenty days after the second necropsic examination was made the body was again disinterred, and these measurements were taken: Length of upper extremity from the axilla to longest finger tip, twenty-eight inches and a half; distance from shoulder to neck, seven inches and three eighths; distance from neck to wound, five inches and a half.

The last two measurements were made in lines intersecting in the neck at right angles.

Diameter of head—thickest part—five inches and three quarters.

Upon this basis of facts, determined by necropsic examination, the contention of the prosecution that death was homicidal, and of the defense that it was suicidal, proceeded. Some effort made to establish inferences from the observed phenomena of rigor mortis, and from the retention of animal heat, elicited from the medical witnesses only discordant and unauthoritative opinions and was necessarily futile. The question of homicide or suicide was thus left to rest solely upon the interpretation of recognized surgical lesions of doubtful significance by a comparison with others experimentally produced under predetermined conditions.

The measurements which had been taken of the neck and upper extremity of the deceased were used to determine by a primary series of experiments the longest range at which a suicidal wound could be inflicted at the point through which she had been shot. These observations were made upon a living subject whose corresponding measurements were identical, and the distance was fixed at from six inches and a half to seven inches. This estimate, if not exact, may be assumed to be sufficiently so for the purpose of this inquiry.

The woman was killed with a five-chambered Colt revolver of 0.30 calibre, which, with the cartridge used, was purchased by the accused some twenty to twenty-five years before. This pistol, with cartridges of similar character and of the same manufacture, was employed in the experiments made at the instance of the prosecution. The shots, from four hundred and seventy-five to five hundred in number, were fired at ranges from contact to seven feet, at the human head and body, cardboard, wrapping paper, and wooden boxes. In this large number of observations not more than twenty wounds were inflicted upon the human subject, and of these, provided the ranges were short, the examinations exhaustive, and the results positive, not more than four could have been made upon each of the two heads which were alone available for experiment. It is positively stated that in the series of shots fired at the cadaver, but three were at contact. In every instance in which this particular pistol was used it was said there was a deposit upon the trigger finger, which was more pronounced when it was fired at the human body, and was denser in contact shots.

The leading witness who testified to the results obtained, and who had personally made the greater part of the experiments, was a chemist, who was generally corroborated as to facts and opinions by the physicians with whom he was associated. His observations of the effects of pistol shots upon the head of the cadaver at different ranges were:

At contact: Hole in the skull much larger than necessary for the ball to pass through; wound through the scalp much lacerated upon its edges and filled with powder smoke and grains; ring of heavy, dense powder smoke, from an inch to an inch and a quarter in diameter, surrounding the wound; hair blown about and radiating in every direction, "which is a characteristic feature"; skin immediately surrounding the wound more or less burned and, with the hair, thickly coated with a dense deposit of powder smoke.

At range of half an inch: Same subject; hair burned off and deposit of smoke in area of an inch and a half; hair violently blown away from the wound; hole through the scalp half an inch wide and three quarters of an inch long, irregular, and highly lacerated; tissues burned and filled with powder smoke and grains.

At range of five eighths of an inch: Same conditions, only more marked as to burning of the hair; beginning of slight deposit of smoke on tip of the ear.

At range of three quarters of an inch: Same conditions as regards point of entrance, except area of smoke deposit greater; hair burned in larger area; two thirds of ear densely covered with smoke; tissues lacerated and filled with fired powder in larger area; skin burned.

At range of an inch: Same conditions, except that area of smoke was about two inches in diameter; hair burned in same area; entire ear covered with smoke deposit; imbedded grains in area of a fourth of an inch.

At range of two inches: Imbedded grains in area of an inch; other features the same, only intensified.

Imbedded grains can not be washed out at any range.

At range of four inches: Hair burned to a crisp in area of an inch and a half; smoke stain in area of two inches, not removed by washing; imbedded grains, nearly whole, too numerous to count.

At range of six inches and a half: No singeing of hair; powder marks and grains in area of eight inches too numerous to count; top lobe of ear full of powder marks; grains imbedded whole; not removable by washing.

At range of twenty inches: Penetration of the skin with powder grains too numerous to count, covering an area of nine inches in diameter; did not rub off, and twenty grains could not be washed out. In a second experiment forty grains could not be washed out.

At range of twenty-four inches: Area of grains one foot; twelve large grains penetrated the skin, and did not rub off; four could not be washed out. In a second shot at this range, seven grains were imbedded, leaving stains after rubbing off, and four left stains after washing.

At range of thirty inches: Grains too numerous to count, covered an area of one foot; not imbedded; left stains that would wash off but not rub off. In a second experiment the grains covered an area of eighteen inches; three were imbedded, and of these two would not wash off.

At range of thirty-six inches: Grains scattered over an area of one foot; four penetrated the outer skin, of which one, at a distance of three inches and a quarter from the wound, burned a hole; stains washed off. In a second experiment, the grains covered an area of fifteen inches and two were imbedded, one at a distance of two inches and a quarter from the wound; three stains would not wash off.

At range of forty-two inches: Area of grains one foot; none imbedded; over twelve that would brush off; no stains. In a second experiment practically same results.

Experiments were made up to a range of seven feet. In all beyond six inches the wound was clean cut and round, and not infiltrated with gas or powder smoke. All the results detailed were obtained from the observation of shots made upon two subjects, and do not include any reference to subcutaneous or intracranial conditions.

The witness then summarized the results of the shots fired at the shorter ranges.

In every case from a range of four inches to five eighths of an inch inclusive: Hair burned to a crisp down to the scalp on every side of the wound in an area of from an inch and a half to two inches in diameter; hair blown violently away from the wound and densely covered with smoke; scalp lifted from the skull and a solid residue of powder grains and smoke beneath it; dense deposit of powder grains and smoke on the edges of the osseous wound, which could not be removed by washing. At all these ranges, except at five eighths of an inch, ear black with deposit blown into the pores of the skin, as seen by magnifying glass after washing; hole through the tissues irregular and very large, giving no indication of the shape of the ball, and four to five times larger. When shots are fired at the angle of the shot in question, so that the space between the ball and the top of the ear is a twenty-fifth of an inch, the ear gives evidence that the ball has passed. This was noted from a three-fourth-inch shot and beyond. All shots made inside five eighths of an inch from the head left no mark on the top of the ear; but the conditions otherwise remained the same in every respect.

With the contact shot all the conditions were in evidence except the burning of the hair.

The witness further stated that he had burned hair at twenty-six inches with this same revolver and ammunition; that in one experiment in which hair half an inch in thickness was placed compactly the powder did not go through, and the bullet rebounded; that in another experiment in which hair was three quarters of an inch in thickness the grains burned through; that two particles of powder had burned twelve hairs at a distance of twenty-four inches; that the length of flame from this revolver was from less than twenty up to thirty inches; and that the projection of sparks was from five to seven feet.

He also exhibited wrapping-paper targets to show the conditions at different ranges, others of cardboard to show the greatest distance at which a grain of powder would ignite, and wooden boxes to show the size of bullet holes at various ranges and that powder grains would follow the bullet through the hole.

In his opinion the discoloration at the top of the ear, which showed unmistakable evidences of lead, was not a powder stain, but wholly blood and caused by a wound. He believed that particles of lead are scraped from the bullet in its passage through the pistol, which can escape only from its muzzle, proving that in this case the range of fire was more than five eighths of an inch. He also believed that live hair burns more readily than that which is dead; and that the soluble parts of powder will dissolve in the brain in ten minutes. These opinions were stated as facts.

Five physicians who had witnessed the experiments upon the cadaver, which have been detailed, confirmed the evidence given by their associate. They also testified that they had individually seen eight or nine cases in which a wound from a contact shot had been inflicted upon the living subject. Two of these gentlemen stated that there was less resistance offered by the living than by the dead skin to the penetration of powder grains.

Further testimony of an expert character was offered by a representative of the cartridge company manufacturing the cartridge which produced the fatal wound, as well as those used in the experiments. He testified that the cartridge with which the woman in question was shot was made between 1874 and 1878, and that those used in the experiments were made between 1878 and 1885, and that the effects would probably be the same; that the strength of powder is lessened by keeping, and that the change is due to chemical action and to the access of grease and moisture; that in old cartridges, as ascertained by experiment, particles of powder burn slower and carry farther, and their burning qualities are much greater than in those which are new; that in powder from twelve to nineteen years old there is a perceptible mark of burning at sixty inches, while with fresh powder there is scarcely a mark at forty inches, as determined by experiments with strawboard; that a difference in length of pistol, though slight, will affect the combustion of powder and its burning; that there are no exceptions to the rule as to the effects of burning powder at the distances named; and that with the pistol and cartridges used in the experiments, flame would project twenty inches and sparks five feet or more from the muzzle; and that the cartridge used in the case at issue was crimped tighter than those now made, which would cause a full or nearly full combustion of powder. He testified later, after having detailed experiments in which shots were made at blotting paper, that on firing at contact a blackening is invariably found on the first finger of the right hand between the first joint and the knuckle, more particularly with the pistol and cartridge of this case, as the cartridge is too short and allows the gas to escape; that in experiments, at contact and range of half an inch only, powder smoke, but no grain, was found in the rear of the muzzle of the pistol; that with this pistol and with old ammunition the bullet would have to travel from two to three feet before it would obtain its equilibrium; that at contact the bullet makes a larger hole than when fired from a greater distance in which it has a chance to obtain its equilibrium; that it is meant by loss of equilibrium that there is a second explosion in the pistol of unconsumed powder as the bullet leaves the muzzle and oxygen gets access which gives the butt of the bullet a twist and causes it to wabble, or sway to and fro; that there is always a recoil at contact and powder is distributed to a greater or less extent over the face of the target; that with this pistol there would always be a quantity of unconsumed powder grains; and that the hole is larger, and the deposit much less, at contact than at a range of half an inch. He had made no experiments upon the cadaver.

This hypothetical question, founded upon the medical and technical evidence adduced, was propounded by the State:

"In the case of a person killed by a pistol shot of 0.30-calibre, the cartridge loaded with black powder, the bullet entering the head just over the right ear, with a hole the size of an ordinary lead pencil, clean cut in the soft parts and small radiating fractures in the bone, the soft parts being free from powder grains, not lacerated nor infiltrated with gas or powder smoke or deposit of powder grains or unburned powder in the wound, no discoloration with powder smoke around the wound or burning of the skin about the wound, or powder grains in the flesh surrounding the wound or adjacent to the wound, five or six powder stains on the ear and temple, what would you say as your opinion as to whether this was a contact shot or not?"

To this question the physicians who had testified as experts made negative answer.

The defense relied upon the evidence of but two medical witnesses to oppose the experimental results and to challenge the conclusions of the expert gentlemen who had appeared for the prosecution. They had made two hundred shots upon human skin, human hair, blotting paper with and without a covering of hair, a human head, and entire cadavers, using a Colt revolver of 0.30 calibre similar in all respects to the one in the hands of the prosecution, and with both old and new cartridges similar in all respects to those used by their opponents. They found no material difference in the effects of the old and of the new ammunition. The results of their experiments made upon the cadaver were described in detail.

1. At light contact: Through the hair; entrance from an eighth to a quarter of an inch above the right ear; hair slightly smoked and raised from side of head in area not to exceed an inch; outline irregular and difficult to measure; singeing did not extend down to the scalp, and was easily removed by combing; none of the hairs about the opening were singed; margin of the wound burned; a little brain matter in the singed hair; top of the ear slightly blackened from burned powder; stain when removed with damp cloth still showed faintly under the magnifying lens; skin of the ear uninjured; two small unimbedded grains of powder on the right temple, and another one on the cheek a quarter of an inch below the eye; scalp wound oval and slightly irregular, but with no special laceration, measuring thirty-two one-hundredths of an inch longitudinally by eighteen one-hundredths transversely, and not admitting a 0.30-calibre bullet without pressure; slight blackening of under surface of the skin; bullet passed through the head, struck a table, and glanced across the room; exit an inch in front of wound of entrance; no powder marks between the skin and temporal muscle; soft parts about the osseous entrance not detached more than an eighth of an inch in any direction; no powder marks between temporal muscle and skull, or in the osseous wound; three small radiating osseous fissures, each three sixteenths of an inch long; osseous wound nearly circular, thirty-three to thirty-six one-hundredths of an inch in diameter, and lead-stained only at one point; skull at site of wound eleven sixty-fourths of an inch in maximum thickness; inner table more fractured than the outer; no powder discoloration in the wound or brain; three minute powder grains resting upon the edge of the dura mater.

2. At contact: Through female hair applied to a male head; entrance just above the right ear; singeing of the hair in an oval area of an inch by an inch and three fourths; no powder grains on the scalp; powder smoke about the bullet aperture, readily removed by washing; cutaneous wound nearly circular, with a laceration a fourth of an inch long in its lower portion; ear blackened as in previous observation; this stain and the singed hair removed by washing, leaving hair short and stubby; blackness of the edge of the wound only remained; some powder discoloration between the scalp and temporal muscle; osseous wound nearly circular, thirty-three one-hundredths of an inch in diameter, and its edge lead-stained; tissues detached in area of half an inch about it; small fragment detached from its edge and held by the pericranium; substance of temporal muscle pulpy; dura mater and brain substance slightly discolored by powder; bullet track through brain bluish in color; skull fractured upon opposite side.

3. At range of five inches: Hair not singed or burned; slightly stained by smoke and containing some loose grains of powder; many imbedded grains in an area of three inches, not removable by washing; cutaneous wound thirteen one-hundredths of an inch in diameter; no subcutaneous discoloration or laceration; osseous wound nearly circular and thirty-five one-hundredths of an inch in diameter; edge lead-stained; no discoloration of brain.

4. At range of six feet: No singeing of hair or discoloration; no imbedded grains; cutaneous wound smaller than at five inches; osseous wound nearly circular, and thirty-five by thirty-seven one-hundredths of an inch in diameter; bone and tissues stained only by lead; brain not discolored.

The witness found it impossible to burn hair at a greater distance than five inches, and did not believe that live hair burns easier than that which is dead. His associate corroborated this opinion and also testified that undecomposed dead skin, of the same texture as skin which is living, is of the same penetrability; that the skins of live persons differ in texture and thickness, and in different parts of the body; that the results of two contact shots are never just alike; that they differ in the amount and distribution of the powder smoke and grains and in the character of the osseous wound; that the same degree of contact can not be obtained in successive shots; that the quantity of hair is an element in determining the amount of powder which would reach the scalp; that powder will not dissolve in the brain, nor any part of it; and that human blood has a dissolving action upon powder patches.

The established fact that the subject which had been used for Experiment 1 by the defense had been injected with arsenite of sodium, starch, and red lead elicited some difference of opinion as to whether that treatment would affect the physical properties of the skin.

The results of experiments made with cardboard, blotting paper, and other substances, upon which both prosecution and defense seem to have in part founded their conclusions, need not be detailed, as in this review they will be regarded as irrelevant.

Some exhibits of portions of scalp and skull illustrating Experiment 1, and the skull used in Experiment 2, of the defense were submitted for examination to the leading expert witness called for the prosecution, who testified in rebuttal: that in the first he found fractures both on the outside and inside of the bone blown full of small particles of powder, detected only by microscopical and chemical examination; that in the scalp just above the bullet hole a lock of hair was singed for three inches in a length of six inches, and at the front of the scalp a small lock had been cut short with three hairs in it which had been singed; that the tissues surrounding the bullet hole had been burned and that in them there were products of burned powder; and that on the inside of the scalp about the wound there were minute patches of charcoal. In the second exhibit, the skull, he found powder deposits about the two osseous wounds made at contact.

The same exhibits were subsequently examined by a pathologist not otherwise connected with the case who testified that he had made microscopical examination of the piece of skull from the female cadaver (Experiment 1), of the skull of the male cadaver (Experiment 2), and of the piece of scalp; that in the hair were particles of carbon, but none of lead; that twenty singed hairs were burned close to the scalp; that he found neither black carbon particles nor lead around the osseous wounds upon the external osseous surface, but a small number of carbon particles and seven particles of lead around the wounds upon the inner surface; and that in the skull in evidence particles of powder and of lead followed the bullet through the brain and were lodged in the opposite side of the skull.

Finally, it was testified that in some special experiments made by the medical witnesses for the defense, in which they fired the pistol used by the prosecution and charged with old cartridges, no trace of deposit could be discerned upon the trigger finger, either with or without the aid of the magnifying glass; and in proof of this, the finger of one of the two witnesses, which had been carefully protected from change, was exhibited, unsoiled, to the jury.

The hypothetical questions propounded by the defense differed from that of the prosecution only by one or two unimportant verbal changes and by the inclusion of singeing of the hair as a new condition.

This abstract of the testimony taken at a trial lasting over many weeks, though necessarily much extended, has been made as brief as is consistent with a proper presentation of all the facts and inferences which the medical evidence involved.

It is unfortunate, in view of subsequent action, that the early treatment of the body had not been more in accordance with medico-legal requirements. Its removal from place to place, and the repeated ablutions to which the head was subjected, could not fail to obscure or destroy important evidences of the ætiological character of the wound. The interment of the body for a lengthened period prior to its final examination by the expert witnesses, who were to make its primary lesions and conditions the basis of inductive reasoning processes, was an additional element of uncertainty which has greatly weakened, if not wholly vitiated, their conclusions. The difficulties which attend a determination of the range at which a pistol-shot wound has been inflicted upon the living subject are under all circumstances much greater than when a similar wound has been experimentally made upon the cadaver. The flow of blood, which is often profuse, washes away the stains of smoke and powder, as well as the free and many of the imbedded grains; few cases escape some cleansing process and, unless death is immediate, some exploratory incision, before the opportunity for thorough examination is afforded. In this instance the repeated disturbances of the body, the unusually thorough washings of the wound, the apparently hasty and incomplete original post-mortem examination, and the combined influences of previous dissection and of lethal decomposition, must have changed, even to an unusual degree, the pathic conditions upon the study of which medical investigation of the manner of injury necessarily depended.

In every case in which the calibre, range, or direction of the bullet is brought in question certain characteristic alterations must be sought in the external soft parts, in the cranium, and in the cranial contents; and as they are present or absent, their positive or negative diagnostic value must be fixed. These specific lesions which attend pistol-shot wounds of the head are, for the external soft parts: peculiarities of the cutaneous wound of entrance, burning of the hair or skin, staining of the skin by smoke, and deposit upon the surface or in the substance of the skin, or in the subcutaneous tissues, of unburned grains of powder or of the products of their imperfect combustion; for the cranium: the peculiarities of the osseous wounds of entrance and exit, the staining of the osseous surface, and the resulting fractures of the vault and base; and for the cranial contents: the staining of the dura mater and cerebral surface, or deposit upon them of powder grains, and the projection of powder grains and osseous fragments into the cerebral substance.

In this particular case the range of the bullet was the only fact to be established; its calibre was known by direct inspection, and its direction was obvious.

The range within which this woman herself could have inflicted the wound from which she died having been previously determined, there remained but a single question for solution: whether the distance traversed by the bullet was within the ascertained limit of six inches and a half, within which either suicide or murder was possible; or whether the bullet was sped from a more distant point, and thus by necessity from the hand of an assassin. This question could be solved, in the absence of specific knowledge already acquired, only by a reproduction upon the cadaver, at a definite range, of the traumatic changes presented in the case at issue. It would be essential that such a result should be obtained under fairly comparable conditions. It must also be demonstrable by sufficiently ample experiment that this wound presented or lacked some feature which is invariably present or absent when inflicted within or beyond the established line of demarcation which separates possible suicide from unquestionable murder. The whole problem, stated comprehensively and in direct terms, would be to decide from adequate examination of the wound, aided by sufficiently well-considered and extended experiment, whether it had occasioned any change in the structure or appearance of the injured parts which is never observed as the result of a shot fired at a longer range than six inches and a half; whether it lacked any feature which is always observable when the shot has been fired within the same range; whether it possessed or lacked any invariable characteristic of wounds inflicted at a longer range than six inches and a half; and whether any real or apparent discrepancies in the answers to these queries which may exist are susceptible of explanation.

The positive alterations in structure and appearance of tissues which were observed in connection with this wound and upon which investigation was to proceed, as set forth by the several examiners, were but few: a spot upon the ear; a few powder stains upon the ear and temple; a little burning of the hair; a discoloration and contusion of the subcutaneous tissues; an oval, clean-cut cutaneous wound thirty-eight one-hundredths of an inch in diameter; a circular osseous wound with a fragment attached to the pericranium; much laceration and softening of the brain, and a comminution of the opposite temporal bone, among the lead-stained fragments of which the bullet was lodged an inch and three quarters in front of its point of entrance. The absence of smoke stains, free or imbedded grains of powder, burning of the skin or wound, and of deposit of gas and smoke in the wound, were also noted as negative considerations of importance.

The experimental work which was specially undertaken both by the prosecution and the defense to determine the significance of these positive and negative indications was marked by great intelligence and care, but was vitally defective. In the greater part of the experiments made, cardboard, wrapping paper, or some other substance widely different in its physical properties from the tissues of the human body was employed; and in the smaller part remaining, in which use was made of the cadaver, but a small proportion involved the head.

A fundamental principle in generalization was thus ignored, since the conditions of experimentation were not even approximately comparable. It was properly stated by one of the witnesses for the defense that no two successive experiments can be made under precisely the same conditions, nor with precisely the same results. The range can not be made absolutely the same, and all cartridges can not be assumed to be exactly alike; atmospheric conditions differ; the skin varies in many particulars in different persons and in different parts of the same person; and other differences of circumstance are well-nigh endless. A very large number of observations, however, will show that such variations do not appreciably affect results, provided deductions made are not too rigidly construed. Conclusions are warranted only when sufficiently broad to include the varying effects of such comparatively trivial and unavoidable variations in the data upon which they are based. It is not justifiable, however, to so extend this latitude in the formation of opinion as to base it upon deductions from a comparison of radically different conditions. The effects of a pistol shot upon the human head can not legitimately be inferred from those produced upon a vegetable fabric. A multitude of observations upon targets of wrapping paper or of cardboard, or upon wooden boxes, though of unquestionable interest, and probably of great scientific value in other directions, can not illustrate the pathic changes which attend a bullet wound of the human tissues. Differences in humidity, inflammability, elasticity, and density are too great to permit a reconciliation of their results.

The number of observations made upon the cadaver was exceedingly small, and those upon the head, which were the only ones strictly relevant, were absurdly disproportionate to the comprehensive conclusions which, so far as they were justified at all, were founded upon them. It was declared without reservation, without the acknowledgment of the possibility of error, that the shot which killed could not have been fired at contact, and, as it would seem, it was left for inference that it was necessarily homicidal. This conclusion, which involved the life of the accused, was reached from the comparison of what was observed in connection with the wound which was to be accounted for, with the results of numerous experiments upon dissimilar objects, and the inspection of probably half a dozen wounds inflicted upon the heads of two cadavers.

It is remarkable that after exact measurements of the arm had been taken, necessitating much trouble and a special exhumation of the body, by which the extreme limit of range within which suicide was possible was ascertained, no use was made of the information acquired. The contention, as it was made, was not whether it was possible that the shot could have been fired within a range of six inches and a half, but whether it was or was not fired at contact. The hypothetical question proposed, by both the prosecution and the defense, and which may be supposed to summarize the medical case on either side, was confined to that single point. It would follow, though this question were conclusively settled, that the possibility of suicide was left still undetermined.

It seems to have been incidentally claimed by the prosecution that the shot was fired at a distance of from thirty to thirty-six inches, and though it may be improbable that in a section of the country in which shooting across the room is not much practised premeditated murder should have been committed at long range, its possibility requires consideration. The medical evidence, therefore, should be studied with reference to the effects of pistol shots fired not only at ranges of less than six inches and a half, but also at these longer distances.

(*To be concluded.*)

THE DIAGNOSIS OF TYPHOID FEVER.

A DISCUSSION
AT THE NEW YORK STATE MEDICAL ASSOCIATION,
OCTOBER 25, 1899.

By WILLIAM OSLER, M. D.,
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"There is no one symptom, there are no two or three symptoms, which, in themselves, are characteristic of the disease. There is no one symptom, there are no two or three symptoms, usually occurring in the disease, which may not be absent during its entire progress. Our diagnosis can never be founded here, as it is in many other instances, on a few positive, physical signs. It must always be rational, not absolute. The evidence, upon which our verdict is to be rendered, is wholly circumstantial. Notwithstanding all this, and although cases sometimes occur so enveloped in obscurity as to baffle the skill of the most careful and experienced observers, it is still true that there are few general diseases the diagnosis of which is so well established, and so certain, as that of typhoid fever."

These statements, taken from the remarkable work of Elisha Bartlett, *On Typhoid and Typhus Fevers*, 1842, express, with slight modifications, the position of the profession to-day on this all-important problem. I quote it designedly to emphasize at the outset the uncertainty which still besets us in dealing with some cases of this protean disease, notwithstanding the extraordinary advances in our clinical and bacteriological knowledge. In the time at my disposal it will be best to summarize the questions briefly in four divisions, which illustrate the conditions under which difficulty in diagnosis is experienced: First, variations in the intensity of the infection; second, the early and pronounced localization of the infection; third, peculiarities in the symptoms; and fourth, certain diseases which simulate typhoid.

I. Variations in the Intensity of the Infection. (*a*) *The Mild Cases.*—Every autumn we meet with cases of illness, from five to eight or ten days' duration, sometimes longer, in which, with gastro-intestinal disturbance, indicated by a furred tongue and diarrhœa, or quite as frequently constipation, there is a fever of slight grade. Perhaps on deep palpation the edge of the spleen may be felt. In such a case the appearance of a few rose spots may clear up the diagnosis, but in other instances the practitioner remains in doubt whether the condition is a simple continued fever or a mild typhoid infection. A relapse, with characteristic symptoms, or a well-defined post-typhoid lesion, may give the diagnosis; but most important of all is the presence or absence of the Widal reaction, which is nowhere of greater help than in this group. While it may not be present at first, even not until the fever has disappeared, it has been of very great service, and will be, I am sure, when more widely used, a special boon in these cases. The method should be employed in widespread epidemics to help in the diagnosis of the milder forms. I may remind you of the exceedingly interesting account from Professor Sahli's clinic, at Bern, of the outbreak of typhoid fever in an asylum of the canton. In addition to thirty patients who had attacks severe enough to demand hospital treatment, there were twelve who had such slight symptoms as headache, fever, and diarrhœa, lasting only for a few days, and not severe enough to confine them to bed, yet the Widal reaction was characteristic. I am sure that a widespread application of the test will restrict within very narrow limits the cases of so-called simple continued fever.

(*b*) *Acute Typhoid Septicæmia.*—At the other extreme is the remarkable group in which the patients present the evidence of an acute infection of great severity without any localizing symptoms. For a week or ten days the picture is that of a profound toxæmia, with high fever and early delirium. Death may occur before it is possible to reach a diagnosis; even the Widal reaction may not be present. A post-mortem may show the characteristic enteric lesions, but not always, and the reports of Chiari, Flexner, Hodenpyl, and others have taught us to recognize typhoid fever without intestinal localization. There are cases in which a post-mortem diagnosis is negative, and only a bacteriological study may reveal the true nature of the disease.

II. Early and Pronounced Localization of the Infection.—A majority of the cases of typhoid fever present no symptoms indicative of the special involvement of any organ or group of organs. A large proportion have no intestinal symptoms. Of thirty-five cases which have been under my care during the present month only four have had severe abdominal symptoms. The profession has had its attention too strongly directed to the enteric character of the disease; hence it not infrequently happens that we are completely taken off our guard when the brunt of a very acute infection falls upon some other system. Of these, the cerebro-spinal, the pulmonary, and the renal localizations are the most deceptive. Agonizing headache, severe neuralgia, delirium, or even furious mania may be the first symptoms of the disease. The so-called brain fever, the acute febrile mania, and cases with symptoms of cerebro-spinal meningitis are not infrequently typhoid fever, and it is important to remember that under the most favorable circumstances death may occur before a positive diagnosis is reached. A post-mortem may alone clear the obscurity, and in its absence the physician can scarcely be blamed when he returns the case to the health board under one of the above designations. Widespread bronchitis, acute pleurisy, with friction and subsequent effusion, early consolidation of a lobe of one lung may mask the true nature of the disease. The early renal localization is almost certainly called (as it is, of course) acute nephritis, of which there may be no single feature lacking, and the suggestion of typhoid fever may be delayed for ten days or more, when enteric symptoms appear, or the fever becomes more intense, or rose spots appear.

These clinical mistakes cause no little mortification to the young practitioner, who has not yet learned to dissociate his *amour propre* and infallibility in diagnosis. Even when hardened—humbled, I should say—by repeated exposure, it is not pleasant to be deceived, and a good rule is: When in doubt, keep your mouth shut. Unless one has a Cassiolike volubility, in the flow of which the friends of the patient lose all idea of your true opinion, the gift of taciturnity should here be cultivated.

III. Peculiarities in the Symptoms. — Elisha Bartlett's dictum, with which I began this paper, must ever be borne in mind. There may be no fever (though afebrile typhoid fever is very rare; I have never seen—to recognize—a case); the onset may be abrupt; there may be no rose spots, no intestinal symptoms; the diazo reaction may be absent; the Widal test may be negative at the height of the disease; there may be leucocytosis, and yet, as Bartlett says, "there are few general diseases the diagnosis of which is so well established and so certain." It is just in these negative cases, with fever alone, that the Widal reaction and the blood count may give us the only positive data, and the practical clinical value of the former, when carefully made, can not be overestimated, and it should be more widely used by practitioners. Wyatt Johnston's method (the dried blood drop) can be utilized, and there are now in almost every State laboratories in which the test can be made. Of positive symptoms which may lead to error I have time to mention only one—viz., chills. How often have I heard the protest, "But, doctor, the patient has had chills, repeated chills; surely he must have malaria"! At the onset of the disease, at the onset of a relapse, as a result of treatment with antipyrine and antefebrin, at the onset of complications, in the typhoid septicæmia, and in the secondary infections of protracted cases and during convalescence, chills frequently occur. Most exceptionally they are due to malaria, which in reality is the last thing to be thought of (except in cases from the tropics), and the nature of which in any given case can be determined by the blood examination and by the therapeutic test.*

IV. Typhoid Fever and Malaria.—I come now, Mr. President, to the only part of the subject worth discussing at the present moment—namely, the diagnosis of typhoid fever from certain other diseases. To gain time I pass by acute tuberculosis, which trips us all at intervals (and I may say I am feeling sore from a fall over it not ten days ago), cerebro-spinal fever, meningitis, typhus, and the other acute infections, to take up the really serious question of the diagnosis of typhoid from the malarial fevers. During fifteen years' practice in the middle region of the Atlantic coast I have had only too forcibly impressed upon me the strange readiness with which physicians diagnosticate a continued fever as malaria. In this period I do not remember to have seen in consultation, in town or country, a single instance of continued fever, diagnosticated as malaria, which did not prove to be typhoid fever. I was fully aware, perhaps few men more so, of the widespread existence of the strong delusion on this subject in the minds of the profession, but neither I nor, I think, you who listen to me now were prepared for such a remarkable exhibition of its strength as that with which the late war presented us. The paper of Dr. Vaughan, based on material collected by the commission appointed by Surgeon-General Sternberg to study the causes and spread of typhoid fever among the troops in the camps of the United States, has been characterized as an indictment of the general efficiency of the men in charge of the camps. A demonstration on a wholesale scale was given of the ignorance in a large number of the members of our profession of essential elementary facts concerning these two diseases. While subscribing to the indictment, I feel that the gravity of the charge is less against the physicians than against those of us who occupy teaching positions. Who are the men responsible for this widespread error? Professor Dock, of Ann Arbor, who was on duty at the camp at Chickamauga, tells us in a few words. He says: "It is not necessary for me to defend the army medical service, for what struck me at the camps was the evidence of lack of knowledge of typhoid and malarial fevers in the profession at large. I came into contact with probably from sixty to seventy-five young physicians of a very good class, such as we would take into our hospitals as internes. Most of them, however, had no hospital experience, and very few seemed to have had any clinical experience with typhoid." The fault lies in reality with the system of teaching which permitted these young men to go out into practice without a thorough knowledge of typhoid fever. Here is the kernel of the whole matter. Looseness of diagnosis is inevitable while we send out the members of our graduating classes unfamiliar, by daily routine work in the hospital wards, with the clinical features of typhoid fever. But this is not the occasion on which to dwell further upon this point, while I bring it up only to place the responsibility for an acknowledged widespread ignorance where it should rest.

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* Chills in Typhoid Fever; Studies on Typhoid Fever, ii. *Johns Hopkins Hospital Reports*, vol. v.

I have on a recent occasion, Mr. President, paid a tribute to the notable contributions on typhoid fever which have been made by three generations of American physicians. I am sorry that I can not speak in the same warm terms of the present generation in relation to the study of the modern problems of malarial fever. Fifteen years have passed since Dr. Sternberg's paper introduced to us in this country the brilliant work of Laveran, and in spite of the numerous confirmatory researches which have been made in Philadelphia, Baltimore, New York, and elsewhere, the enormous practical gain—namely, that we are everywhere able under all circumstances to determine the presence or absence of a malarial infection, has not been appreciated fully by the practitioner at large. One has to sympathize a bit with him—clinical fetiches are given up with difficulty and regret! To many good, easy men it came as a shock, to find that malaria was really a well-defined, easily recognizable disease. Naturally, it was hard to abandon a word like *malaria*, which carried with it as much clinical comfort as did that blessed word *Mesopotamia* spiritual unction to the old lady. My sympathies have been deeply aroused by the distress which has been felt in many quarters of this city where you have been, until recently, with some notable exceptions, heretics of the worst kind. Nowhere, perhaps, has malaria ever covered such a multitude of diverse maladies. I came in contact with it first when in Montreal, a city in which malaria is unknown, so that when our patients returned from the hands of Gotham consultants with the diagnosis of malarial neurasthenia, or of latent malarial abscess of the liver, or of malarial headache of obscure origin, we learned to appreciate the mysteries of paludic infection as existing in the imagination of Manhattan practitioners. I have myself been scolded as too shockingly dogmatic on the subject, as some of you may remember, in a paper read a year or so ago by my friend, Dr. Beverley Robinson; but I protest that dogmatic as I have been, I have not been dogmatic enough. Had we teachers throughout the country been more persistently dogmatic, the profession might have been spared the mortifying exhibition of last year. But as for so many of us, so for Dr. Robinson, there is no possible salvation in this respect until born again of the microscope and a prolonged course of study of the genuine disease.

Two clinical rules should guide practitioners above Mason and Dixon's line:

1. *An intermittent fever which resists quinine is not of malarial origin.* Infection with the tertian organism, producing quotidian or tertian paroxysms, is the only variety of malarial fever prevalent in the Northern and Middle States. This form of the parasite is peculiarly susceptible to the action of quinine, and even a grain or two daily may suffice to clear the blood within forty-eight hours. The constancy, the infallibility of the action of this drug is one of the most remarkable phenomena in medicine. Our clinical charts of simple intermittents, now numbering many hundreds, may be searched through and through without finding an instance in which the paroxysms were not checked by the use of quinine, and usually within thirty-six or forty-eight hours.

2. In these localities *a continued fever is not due to malarial infection.* I am speaking now, remember, of the regions named, in which the æstivo-autumnal organism and the graver forms of the disease caused by it are very rare. For remarkable complexity in the clinical manifestations, for variability in mode of onset, in the course, and in the symptoms, the æstivo-autumnal infection takes precedence even of typhoid fever. With a vigilance quickened by repeated surprises, we are yearly made to feel the subtleness of this protozoan Proteus, which rivals "the old sea-tell-truth" of Homer's tale in clinical wiles and sleights.

So exceptional are cases of a continuous fever with tertian infection that they need not be considered, but the æstivo-autumnal fever may simulate typhoid very closely. I shall not detain you with any detailed account of the differentia, which are fully described in recent works, but I may dwell on one or two points. The fever in malaria from the outset is marked by remissions—hence the term remittent fever—of a grade rarely seen in typhoid until the late stages. Once the fastigium is reached, the fever in the latter presents a remarkable steadiness; the two-hour record may show for several days a variation of not more than a degree. The chart has a "Pennsylvania-Railway-like" directness, in marked distinction to the zig-zag "Baltimore-and-Ohio-Railway" chart of æstivo-autumnal fever. The early anæmia, with sallow complexion, often suggests the diagnosis, even when other symptoms are like those of typhoid fever.

It is in these cases that we find the enormous diagnostic value of Laveran's discovery. Unfortunately, the parasite of the æstivo-autumnal fevers is less easily recognized in the acute stages than the larger tertian form, and, moreover, it may be very scanty in the circulating blood. To become an expert in the examination of the malarial parasites requires a long and tedious apprenticeship, and there have been illustrated papers published in this country which make one wonder not less at the brazen audacity of the authors than at the gross ignorance of the editors of the journals. I would urge most strongly, particularly upon the young house physician beginning the study, in all doubtful cases to keep well-made cover-slip preparations, which can be identified later by proper methods of staining. The recognition of an æstivo-autumnal infection of a week or ten days' duration is an easy matter from the presence of ovoids and crescents. Unlike the simple intermittents, the malarial continued fever is more resistant to quinine, and three or four days may elapse before the temperature falls, and the organisms do not disappear from the blood so promptly; indeed, the crescents and ovoids are remarkably resistant in comparison with the tertian form.

Combined infection with the typhoid and malarial germs is excessively rare; so rare, indeed, that only a single instance has been met with in the Johns Hopkins Hospital in ten years among nearly one thousand cases of typhoid fever. When it does occur, quinine readily settles the malarial side of the infection, while the typhoid fever pursues its usual course. It is to be hoped that the pernicious term typho-malarial fever has been forever banished from our nomenclature. Sheltered under it, a fancied sense of security has too often ended in a sad calamity, either to the patient or, in the absence of proper sanitary precautions, to the community.

But after all in any discussion on typhoid fever the appeal must be made to the hard-worked practitioners of the smaller towns and country districts (in which the disease is now most prevalent), who find it very hard, in the conditions of their lives, to take advantage of modern scientific methods of diagnosis. They must rely in great measure on experience and common sense, and to them I would say in conclusion—*learn to suspect typhoid fever, and not malaria, in every case of fever of six or seven days' duration, particularly if it resists the action of quinine. For too long you have employed the Anglo-Saxon method of procedure, and in a given case have assumed innocence of anything so serious as typhoid until in the onset of some serious symptom the guilt was only too evident! It is high time now that you adopt the Gallic usage, and regard every case of continued fever as guilty, that is as a typhoid, until the contrary be clearly demonstrated.*

Two recent works should be on the library table of every physician at this season of the year — Keen's *Surgical Complications* and Hare's *Medical Complications of Typhoid Fever.* They will stimulate that personal progressive education which all of us should seek —an education which carries with it, year by year, as experience widens, not alone a better knowledge of the clinical intricacies, but an ever-ripening wisdom which enables us to be more and more helpful to the pitiable victims of this disgraceful disease.

Therapeutical Notes.

An Ointment for Impetigo of the Head and Face in Infants.—Kistler's formula is thus given in the *Riforma medica* for August 12th:

℞	Salicylic acid	2	parts;
	Bismuth subnitrate	40	"
	Rose ointment	100	"
	Powdered starch	15	"

M.

For Flatulent Dyspepsia.—*Settimana medica* for August 19th gives the following:

℞	Pure fluoride of ammonium	15	grains;
	Distilled water	4,500	"

M. A tablespoonful after every meal.

A Mixture for Hemicrania.—The *Riforma medica* for July 6th attributes the following formula to Leyden:

℞	Fluid extract of coca	60	parts;
	Sodium bicarbonate	5	"
	Sherry wine	20	"
	Melissa water	200	"
	Oleosaccharate of lemon	10	"

M. S.: A teaspoonful three times a day.

A Powder for Gastric Acidity.—The *Presse médicale* for September 2d attributes the following formula to Lemoine:

℞	Magnesia	4½	grains;
	Bismuth salicylate, Sodium bicarbonate, } each	7½	"

M. Five such powders to be taken daily, in a little warm Vichy water.

A Lotion for Pruritus Ani.—The *Riforma medica* for August 22d gives Penzoldt's formula as follows:

℞	Sodium hyposulphite	30	parts;
	Carbolic acid	5	"
	Glycerin	20	"
	Distilled water	450	"

M. To be applied on a compress.

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THE MEDICAL WITNESS.

It is an unedifying spectacle that is too often spread before the public when any point of real or fancied importance in determining the result of a trial in court turns upon the medical testimony. Doctors differ ludicrously even as to matters of fact; when it comes to opinions, their differences are all the greater. All this is notoriously true, but we deny that it can correctly be held to imply that medical men are less learned in their calling, less truthful, or less logical than men of other professions. The physician who has had little or no experience in legal matters is apt to prove a bad witness. This we believe to be largely owing to the general lack of sufficient courage to say "I don't know." Most men who are supposed to be well informed in any branch of knowledge have a tendency to avoid admitting their ignorance as to any point connected with it. In the case of physicians this tendency is nursed and developed by the course that they are forced to pursue almost daily; questions are asked of them in the everyday round of practice which they can not answer with positive knowledge, but to admit the lack of such knowledge would lower them in the estimation of the questioners, that is, their patrons. Consequently the practitioner of medicine falls easily into the habit of framing some answer which will "hold water" as things usually go, and he is apt to find himself unable to escape from the habit when he is on the witness stand. It is, of course, the lawyer's business to detect and expose the fallacies in ill-considered answers given by a witness, and if he chooses to dwell on them and magnify them testimony of great value in other respects is almost sure to be seriously impaired and the witness discredited.

But are medical men the only bad witnesses? We have an idea that lawyers themselves are not good witnesses as a rule; certain it is that they often fail to get what they are seeking for out of a medical witness, by reason of their ignorance or bad judgment. An example of this is given by Dr. David H. Stirling in an article entitled The Unsatisfactory Conduct of Medico-legal Investigations, published in the October number of the *Scottish Medical and Surgical Journal.* "I once said to a counsel engaged in a trial of considerable importance to a railway company that he had quite failed to make the medical bearings of the case clear to the jury," says Dr. Stirling. "His reply was 'Oh, it would have wearied the judge!' It was quite evident that, however learned he might have been in law, he knew absolutely nothing of medicine and had not prepared himself to deal intelligently with the case in hand." The "Yes or no; answer a direct question, please," adds Dr. Stirling, "is often the absurd demand of ignorance, still oftener the endeavor to turn aside a truth that damages the lawyer's case." As a matter of fact, the preeminence of the doctor as a bad witness is rather a figment of the popular imagination than a point of serious belief with those who know; there are but few lawyers who entertain the notion carried beyond that of the doctor's notorious aversion to saying "I don't know."

Last week, at its annual meeting in New York, the New York State Medical Association made medical expert testimony one of its chief subjects of discussion. Judge Bartlett, of the appellate division of the supreme court, read an elaborate paper in which he dealt principally with proposed measures for remedying the present lack of confidence in such testimony. He thought that no change had any chance of being brought about which did not leave the expert witness subject to cross-examination, and this, as well as contradiction by "outside" experts, would have the effect, he said, of lessening the value of a system of official experts in the eyes of the jury. For our part, we quite agree with ex-Judge Daly that no effective substitute for the present system can be found, but that is not saying that the present system can not be improved. The improvement, however, must spring from the medical and legal professions themselves, and not from the legislature.

A MEDICAL VIEW OF GOETHE.

It is a never-failing source of gratification to reflect that so many of the great names of literature are those of men educated in medicine, if not practitioners of our art at some period of their lives. It is hardly less gratifying to recall that many other men whose writings will endure to the end of time were evidently deeply interested in medical science and, with scarcely an exception, felt respect and sympathy for the physicians of their times. It is always profitable to inquire into the attitude of a great man toward our profession. In our present issue Dr. Bartholow has a most interesting article on The Medical History of Sir Walter Scott. In the *Wiener klinische Rundschau* for September 24th there is a notable article signed Paschkis which deals with Goethe from the medical point of view.

It is quite characteristic of Goethe, says the author, that it was immediately after reading Sömmerring's *Gehörwerkzeuge* and Steffen's *Grundzüge der philosophischen Naturwissenschaften,* together with Montuclas's *Histoire des mathématiques,* that he wrote his general review of Nature lore, explaining that it was the exalted views of these great men that had aroused in him the desire to place himself in the centre of the kingdom of Nature and Freedom. It is in the light of this lofty aspiration, Paschkis goes on to say, that we may comprehend Goethe's personal relations with the great physicians and other scientific men of his time, whose methods of thought and procedure he found very interesting.

We may judge of Goethe's regard for surgery, says Paschkis, from his calling it "that most godlike of pursuits." It was to surgery that, after many mistakes and wanderings, he brought his Wilhelm Meister, in whose life the surgeon's outfit played the part of an encouraging fetich up to the happy ending for him, for Natalie, and for Felix. That so majestic a career as Goethe's should have been to such a degree molded by his contemplation of medicine and the natural sciences, and his benign life so in sympathy with their devotees, we may justly look upon as a tribute of the first magnitude to their nobility.

SMALL-POX IN THE UNITED STATES.

It is now a number of years since there has been anything like a widespread epidemic of small-pox in the United States, and there is not now, in our opinion, a sufficient prevalence of the disease to give rise to alarm, but it certainly is prevalent enough, and has been for several months past, to emphasize the necessity of constant vigilance and the utmost energy in the work of vaccination. From June 30th to October 6th there were reported to the surgeon-general of the Marine-Hospital Service four cases from two localities in California (exclusive of the few that showed themselves in September among the men of a regiment of volunteers that had shortly before arrived from Louisville), four from three counties in Colorado, one from Connecticut, seventy-four from Jacksonville and seven counties in Florida (including fifty-three from the two counties of Gadsden and Hillsboro), forty from Savannah and two counties in Georgia, three from Chicago, two from two counties in Indiana, two from Kansas City, Kansas, a hundred and twenty-one from Louisville and Leslie County in Kentucky, seventeen from Louisiana (fourteen from New Orleans and three from Shreveport), thirty-two from two places in Maryland, twenty from five places in Massachusetts, an unstated number from Saginaw County, Michigan, nine from three places in Minnesota, twenty-two from two places in Mississippi, a hundred and thirty-nine from St. Louis and six counties in Missouri, six from Great Falls, Montana, sixty-eight from sixteen localities in North Carolina, forty from four cities in Ohio, six from Portland and an unstated number from Umatilla County, Oregon, two hundred and twenty-four from eleven localities in Pennsylvania (including sixty-four from Philadelphia), one from Memphis, Tennessee, a hundred and fifty-eight from twenty-five places in Texas, a hundred and twenty-one from eighteen places in Virginia, thirty-one from five places in Washington, and two from ,two places in West Virginia. In addition, six cases were reported from Ponce, Puerto Rico.

The assembling of a volunteer army is one of the favorite occasions for an extensive outbreak of small-pox, and our freedom from such an occurrence during the war with Spain was doubtless due to the fact that our recruits were not massed, but were quartered in small bodies at many distant points. Probably the Marine-Hospital Service has not received reports of all the cases that have occurred; indeed, there has been some prevalence of the disease in the western part of the State of New York, which does not figure at all in the surgeon-general's table, and ten or more cases were reported to the board of health of the city of New York during the period in question. Still, allowing for unreported cases, there has been no alarming prevalence of small-pox in the country. We repeat, however, that the number of cases has been large enough to call for unusual activity in the work of vaccination. While, as we have said, the assembling of an army is apt to be accompanied by an outbreak of the disease, military administration generally has the ultimate effect of bringing its prevalence below the ordinary rate in civil life. An irresistible example of this has been shown in Manila. The *Lancet* for October 7th says: "The argument upon which the antivaccinationists chiefly rely is that the wonderful decrease in small-pox is not due to vaccination but to improved sanitation. A letter recently received from a surgeon of the Thirteenth Minnesota Volunteers, now in Manila, notoriously one of the most insanitary towns in the world, affords further proof of the fallacy of this reasoning, and, at the same time, once again demonstrates the efficacy of vaccination. Dr. Ritchie, the surgeon in question, says: 'April and May are the small-pox months in Manila. Two hundred and fifty deaths a month was not considered an excessive number nor esteemed an epidemic. Since our occupation no such number has occurred, and owing to the untiring efforts of Major Bourne, health inspector of the city, the mortality is almost nil. Over fifty thousand persons have been vaccinated, and the good work goes on. . . . Our vaccine is now almost entirely used, with the effect that the disease is not only under control but almost "stamped out."' The foregoing statement is most valuable testimony in favor of vaccination. The sanitary conditions in Manila were as defective as possible, and yet vaccination alone was sufficient to abolish small-pox."

EXONERATION, BUT NO AMENDS.

The recent outrageous arrest of two reputable physicians because they were the last, except those of Bellevue Hospital, in attendance on a woman suffering from the consequences of an illegal operation has been followed by their honorable discharge after several days of worry and inconvenience. It seems to be the general impression that they owed their discharge to the fact that they did not know the nature of the woman's trouble, but we take it that Coroner Fitzpatrick entertained a broader view of the matter, for he is reported to have looked astonished, as well he might, when informed of the cause of their arrest. It is a pity that it was not in his power to cause amends to be made to them for the indignity put upon them, and it is still more a pity that medical attendance on a woman who has submitted to an operation to bring on abortion should be considered as in the least deserving of reproof. Physicians do not feel the I-am-holier-than-thou sentiment that would make the rendering of assistance to a sufferer conditional on the patient's being able to show a clean bill of moral health.

KOPLIK'S SIGN IN THE EARLY DIAGNOSIS OF MEASLES.

Verily there is nothing new under the sun. Dr. Siegfried Weiss, of the Carolina Children's Hospital, Vienna, has written a letter to the editor of the *Medical Record*, published in that journal for October 21st, in which he shows that the preexanthematous lesions observable in the mouth were accurately described in 1880 by Dr. Flindt, a Danish physician, and that his description was "exhumed out of the records of the Danish Sundhedscollegium" by Jürgensen and published in Nothnagel's *Pathologie und Therapie*. None the less credit, however, is due Dr. Koplik for having called attention to the sign, which no doubt he discovered independently.

"BLOOD IS THICKER THAN WATER."

Whatever may be an American's sentiments concerning the war between the British and the Boers, he can have but one feeling, that of gratification, we take it, over an enterprise undertaken by a number of women of American birth living in England as a recognition that "the people of Great Britain by their sympathy and moral support materially aided the people of the United States in the war in Cuba and the Philippines." Their plan is to raise a fund from their fellow-Americans for the relief of the sick and wounded soldiers and refugees in southern Africa, and to equip a hospital ship with accommodations for two hundred patients. The committee formed to carry out this gracious purpose consists, we understand, of Lady Randolph Churchill (formerly Miss Jerome), the Duchess of Marlborough (formerly Miss Vanderbilt), the Countess of Essex (formerly Miss Grant), Mrs. Joseph Chamberlain (formerly Miss Endicott), Mrs. Arthur Paget (formerly Miss Stevens), and Mrs. Bradley Martin. Their good work is in every way worthy of encouragement.

"A LITTLE POCKET FOR FEES AND A BIG POCKET FOR INSULTS."

Seldom has this old saw proved more strikingly applicable than in the case of Dr. Lamont, a parish physician of the western coast of Scotland, described in a London letter printed in the *Medical News* for October 21st. There was an endemic of typhoid fever in the parish, and the community became so panic-stricken that in many instances nobody but Dr. Lamont could be induced to go near the sufferers in their last days, so that he had to act as physician, nurse, and undertaker. In his rôle of unassisted undertaker he was obliged to resort to crude methods which called down upon him the public accusation of having maltreated the dead—this, however, not until after he had been cleared of a flimsy charge of having improperly issued vaccination certificates, kept in jail for two or three days, and dismissed from his office in disgrace. All these indignities were heaped upon him at the instance of the parish council, but by parliamentary intervention his wrongs were finally righted so far as possible. It is to be feared that he still has to live among the barbarous people of the parish.

APPENDICULAR TROUBLE AND THE SARTORIUS.

Among the recent gems of newspaper medicine is an article reproduced in the *Sun* from the *Glasgow Mail*, in which "a well-known medical man" is said to have "announced," among other things, that the reason for the greater frequency of appendicular inflammation in the male sex was their habit of sitting with the legs crossed. It might be well to ascertain the relative frequency of the disease among tailors and among other men.

AN INCREASE OF HERNIA IN THE AUSTRIAN ARMY.

Armies are incidentally useful for other purposes than those of warfare; large collections of men living under practically uniform conditions, well fed and well cared for as to their health, furnish an excellent field for observation in physiology and pathology. Mandl (*Militärarzt*, 1899, No. 9; *Fortschritte der Medicin*, September 27th) reports a steady increase of hernia in the Austrian army for a number of years past, and he finds it difficult to account for the fact. It would be interesting to know if there is a corresponding increase of hernia among the civil population of Austria.

REMOVAL OF THE STOMACH WITH INTESTINAL RESECTION.

NOT to be outdone by those who have simply removed the entire stomach, Kocher (*Deutsche medicinische Wochenschrift*, September 14th; *Klinisch-therapeutische Wochenschrift*, October 1st) has performed that operation and at the same time resected a portion of the transverse colon. The patient died on the fifth day afterward, but the post-mortem examination showed that there was no reason why so extensive an operation should necessarily fail.

THE TEMPERATURE OF THE AGED.

THE sensitiveness to cold shown by persons of advanced years is a matter of common observation. It may be dependent on arteriosclerosis, to which Chelmonski (cited in the *Wiener klinische Rundschau* for September 3d) attributes certain abnormities of temperature that he has observed in old persons. He reports 1,682 observations made on 111 individuals over fifty years old between the hours 8 and 10 A. M. and 5 and 7 P. M. He finds the temperature frequently lower than normal, and not uncommonly an inverted type, the temperature being higher in the morning than in the evening. The sclerosis is said to act by crippling the contractile power of the great vessels.

THE "TRIGGER FINGER" AND THE QUESTION OF MURDER OR SUICIDE.

IN the Sheldon murder trial, as related by Dr. Phelps in this issue of the *Journal*, much attention seems to have been paid to the question of whether or not the deceased's "trigger finger" was powder-stained, but it does not seem to have occurred to anybody connected with the trial that in such a case of suicide it would be more natural for the person to pull the trigger with the thumb than to give the wrist the awkward strain required for pulling it with a finger, and that the use of the thumb would increase the possible length of range.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending October 28, 1899:

DISEASES.	Week ending Oct. 21.		Week ending Oct. 28.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	72	22	75	20
Scarlet fever	116	6	117	4
Cerebro-spinal meningitis	0	2	0	6
Measles	140	3	176	8
Diphtheria	188	29	206	29
Croup	8	5	13	8
Tuberculosis	179	134	151	140
Small-pox	3	0	4	0
Chicken-pox	19	0	18	0

The New York Obstetrical Society.—At the annual meeting, held on October 10th, the following officers were elected for the ensuing year: Dr. Clement Cleveland, president; Dr. H. J. Boldt and Dr. R. Waldo, vice-presidents; Dr. R. L. Dickinson, recording secretary; Dr. E. A. Tucker, assistant secretary; Dr. E. E. Tull, corresponding secretary; Dr. J. Lee Morrill, treasurer.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending October 27, 1899:

Small-pox—United States.

Butler, Mass	Sept. 30–Oct. 18	2 cases,	1 death.
Everett, Mass	Oct. 14–21	1 case.	
Saginaw, Mich	Oct. 14–21	Present in 5 places.	
Butte, Mon	Sept. 30–Oct. 18	2 cases,	1 death.
New York, N. Y	Oct. 14–21	3 "	
Cleveland, Ohio	Oct. 14–21		5 deaths.
Galveston, Texas	Oct. 20	1 case.	
Alexandria, Va	Oct. 20	1 "	
Portsmouth, Va	Oct. 19	1 "	

Small-pox—Foreign.

Buenos Ayres, Argentina	Aug. 1–21	1 case,	1 death.
Prague, Austria	Sept. 23–Oct. 7	5 cases.	
Antwerp, Belgium	Sept. 25–Oct. 16	4 "	4 deaths.
Rio de Janeiro, Brazil	Aug. 11–25	180 "	75 "
Athens, Greece	Sept. 30–Oct. 7	8 "	3 "
Bombay, India	Sept. 19–26		5 "
Madras, India	Sept. 16–22		1 death.
Moscow, Russia	Sept. 23	1 case,	1 "
Odessa, Russia	Sept. 8–Oct. 7	7 cases,	2 deaths.
St. Petersburg, Russia	Sept. 23–30	3 "	1 death.
Warsaw, Russia	Sept. 23–30		5 deaths

Yellow Fever—United States.

Key West, Fla	Oct. 16–27	61 cases,	4 deaths.
Miami, Fla	Oct. 23–26	12 "	
New Orleans, La	Oct. 21–25	7 "	2 "

Yellow Fever—Foreign.

Buenos Ayres, Argentina	Aug. 1–31	1 case,	1 death.
Rio de Janeiro, Brazil	Aug. 11–25	3 cases,	6 deaths.
Havana, Cuba	Oct. 5–17	15 "	9 "
Matanzas, Cuba	Oct. 16	Suspected.	
Santiago, Cuba	Sept. 23–30		1 death.
Tampico, Mexico	Sept. 22–29	2 cases,	1 "
Tuxpan, Mexico	Oct. 2–16		15 deaths.
Vera Cruz, Mexico	Oct. 12–19		2 "
Straits Settlements, Singapore	Sept. 2–9		4 "
Santa Cruz, Teneriffe	Sept. 16–23		2 "
Erzeroum, Turkey	Sept. 16–23	5 "	
Smyrna, Turkey	Sept. 25–Oct. 1		1 death.

Cholera.

Calcutta, India	Sept. 8–16		2 deaths.

Plague.

Hongkong, China	Sept. 2–9	13 cases,	12 deaths.
Yinghon, China	Aug. 15	Reported.	
Alexandria, Egypt	Sept. 25–Oct. 1	1 case,	1 death.
Bombay, India	Sept. 19–26		82 deaths.
Calcutta, India	Sept. 8–16		46 "
Kurrachee, India	Sept. 16–23		4 "
Tamatave, Madagascar	Sept. 8	2 cases,	2 "

Alvarenga Prize of the College of Physicians of Philadelphia.—We are informed that the College of Physicians of Philadelphia announces the next award of the Alvarenga prize, derived from the income for one year of the bequest of the late Señor Alvarenga, and amounting to about one hundred and eighty dollars, for July 14, 1900, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but must not have been published, and must be received by the secretary of the college on or before May 1, 1900. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award.

The Alvarenga prize for 1899 has been awarded to Dr. Robert L. Randolph, of Baltimore, Maryland, for his essay entitled The Regeneration of the Crystalline Lens—An Experimental Study.

A New Convalescent Hospital for United States Soldiers is, according to the *Army and Navy Journal* for October 14th, being built on the island of Corregidor at a cost of sixty-four thousand dollars. It is on a plateau facing the bay. The building is being constructed of wood, with iron roofs, and being raised a number of feet above the ground. The main building consists of three large, airy wards, with an isolated ward for infectious diseases. Another building contains the offices of the medical staff in charge. In addition, there are two sets of quarters designed for the medical officers. Away from the main building are several smaller ones, designed for kitchens, servants' rooms, and refrigerating plant, etc. It is admirably located for any purpose, being on the high land of an island which is constantly swept by the sea breeze.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 21 to October 28, 1899:*

BRADLEY, ALFRED E., Major and Surgeon, United States Volunteers, will make a careful sanitary inspection of the railroad cars provided for the transportation of the Forty-fifth Infantry from Fort Snelling, Minnesota, to San Francisco.

GANDY, CHARLES M., Captain and Assistant Surgeon, United States Army, will proceed to New York and report to the commanding officer, Forty-third Infantry, for duty until its arrival at Manila.

KIRKPATRICK, THOMAS J., First Lieutenant and Assistant Surgeon, will proceed to Washington Barracks for duty with Siege Battery O, Seventh Artillery, during its practice march.

LAWRASON, GEORGE B., Acting Assistant Surgeon, United States Army, will proceed to Guanajay Barracks, Cuba, for duty.

MILLHOFF, CLARENCE B., First Lieutenant and Assistant Surgeon, United States Army, is reassigned to duty at the United States General Hospital, Presidio of San Francisco.

OWEN, WILLIAM O., Captain and Assistant Surgeon, United States Army, is appointed as sanitary inspector of the department, with station in San Francisco.

PICK, HENRY, Acting Assistant Surgeon, United States Army, will report to the commanding officer, Forty-seventh Infantry, upon its arrival in New York, and accompany it on the United States transport *Thomas* to Manila.

RICHARDSON, GEORGE H., Acting Assistant Surgeon, United States Army, will proceed to San Francisco for duty in that department.

Society Meetings for the Coming Week:

MONDAY, *November 6th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, New York, Academy of Medicine; Utica, New York, Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

TUESDAY, *November 7th:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, New York, Academy of Medicine; Ogdensburgh, New York, Medical Association; Syracuse, New York, Academy of Medicine; Medical Society of the County of Cattaraugus (quarterly), New York; Hampden, Massachusetts, District Medical Society (Springfield); Hudson, New Jersey, County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *November 8th:* New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Society for Medical Progress, New York; Medical Societies of the Counties of Albany and Allegany (quarterly), New York; Pittsfield, Massachusetts, Medical Association (private); Worcester, Massachusetts, District Medical Society (Worcester); Philadelphia County Medical Society.

THURSDAY, *November 9th:* Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; New York Physicians' Mutual Aid Association (annual); Medical Society of the County of Cayuga, New York; South Boston, Massachusetts, Medical Club (private—annual); Pathological Society of Philadelphia.

FRIDAY, *November 10th:* Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, New York.

SATURDAY, *November 11th:* Obstetrical Society of Boston (private).

Births, Marriages, and Deaths.

Married.

FOOTE—CAULDWELL.—In New York, on Thursday, October 26th, Dr. Edward Milton Foote and Miss Caroline Bishop Cauldwell.

GIBBONS—PEARCE.—In West Roxbury, Massachusetts, on Tuesday, October 17th, Dr. Sherwin Gibbons, of Lexington, Massachusetts, and Miss Anna Judson Pearce.

M'CHESNEY — LINDSLEY.—In New Haven, on Wednesday, October 25th, Mr. Calvin Stewart M'Chesney and Miss Caroline Lindsley, daughter of Dr. Charles A. Lindsley, of Yale Medical School.

O'MALLEY — BANNON.—In Hoosic Falls, New York, on Thursday, October 26th, Dr. G. M. O'Malley, of Bennington, Vermont, and Miss Frances C. Bannon.

PLUMMER—BUTTS.—On board the warship *New Orleans*, on Thursday, October 19th, Dr. Ralph W. Plummer, United States Navy, and Miss Lillian C. Butts.

ROACH—M'LAUGHLIN.—In Brooklyn, on Wednesday, October 25th, Dr. James A. Roach and Miss Laura M'Laughlin.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XLIII.

CRIMINAL LIABILITY.

(Continued from page 638.)

Evidence of Willingness and Capability Admissible.—While it is essential for the State, in proving the commission of this sort of a crime, to show an opportunity, it is also competent, although not essential, for it to show a state of preparedness or of willingness on the part of the defendant to render such services. It was accordingly held proper to admit the evidence of a witness who testified that, several months before the alleged crime was committed, she saw a metallic instrument in the defendant's hands, in two parts, about a foot long, round and hollow, and that the defendant said it was the best kind of an instrument for procuring an abortion, because safer than any other kind.[*]

Upon the trial of a physician in New York State it was held proper to admit in evidence a circular which the defendant had issued several years previously.

In commenting upon the admissibility of this circular,[†] which, it seems, was a most flagrant production, and might well be calculated to strongly influence the minds of the jury, Justice Miller, of the supreme court, said: "The circular was, I think, competent as a declaration of the prisoner that he made a specialty of this business, and was versed and skilled in regard to it. It corroborated the proof introduced upon the trial, and was a statement of himself to the effect that he made it a part of his business to attend to cases of this kind. With evidence that an abortion had been procured while deceased was under prisoner's charge, his own advertisement that he was ready to perform operations of such a character certainly tended to strengthen the testimony already introduced, and was clearly admissible."[*]

In the case of Commonwealth *vs.* Brown[†] two women appeared upon the trial and testified positively to the details of the procurement of abortions upon them. A police officer appeared and testified as to the arrest of the defendant and produced the instruments in court which he had found at the defendant's office, also a speculum chair. Experts testified that most of the instruments exhibited were adapted to procuring the abortion of pregnant women, although none of them could be said to be so exactly designed for that purpose as not to also be appropriate for use in necessary and lawful acts of surgery.

The defendant in his own behalf testified that none of the instruments exhibited were adapted to use in producing abortion, but were all in common use in lawful and necessary surgical operations; he then explained to the jury the use and purpose of each instrument and of the speculum chair. He then offered to read to the jury from books of medical authority to substantiate his testimony, but was not permitted to do so. In answer to the evidence of the two women above referred to, he testified that the first one came to him to be treated for a tumor on the neck of her womb, and that she did not think she was pregnant; that he examined and treated her medicinally and surgically for a tumor which he discovered on the neck of her womb; and that he gave her no medicine capable of producing an abortive effect, nor did he use any instruments for the purpose of producing an abortion. In answer to the evidence of the second woman, he testified that she came to his office, in company with a man, who stated to him that the woman had been operated upon by a midwife to procure an abortion, and that at the request of the man he undertook to treat the woman, medicinally and surgically, to relieve her of a dead fœtus.

The police officer, above referred to, testified that on the day after arresting the defendant, he took him before the two women and asked them if they knew the prisoner, and if they had been operated upon by him, to both of which questions they answered in the affirmative, and that the prisoner then asked them if they had previously been operated upon by another person. The prisoner's counsel objected to the admission of this evidence, but it was admitted on the ground heretofore referred to—viz., that it was an admission against interest. The court very clearly stated the rule applicable in the following words: "The rule is that a statement made in the presence and hearing of a defendant, to which no reply is made, is not admissible against him, unless it appears that he was at liberty to make a reply, and that the statement was made by such person and under such circumstances as naturally to call for a reply unless he intends to admit it. But if he makes a reply wholly or partially admitting the truth of the facts stated, both the statement and the reply are competent evidence." The court in applying the rule expressed the opinion that the reply was such as to justify an inference that the defendant admitted the truth of the statements, and therefore that the statements both of the women and of the defendant were admissible.

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[*] Com. *vs.* Blair, 126 Mass., 40.

[†] The following is the principal part of the circular:

"Dr. ——'s female regulator; married ladies should not take it. For reference apply at his office. Office hours from 8 to 11 A. M., and from 1 to 5 P. M.

"*A Card*—Dr. —— would respectfully announce to the ladies of S—— and vicinity that he is at all times ready and happy to have a social consultation upon all matters relating to pregnancy or confinement, or in regard to lawful production of a premature birth, which, in all proper cases, he will produce in a skillful manner, guarantee an easy time, and speedy recovery. For the information of all I insert the statute in reference to the unlawful production of premature birth, which is as follows, to wit:

"Every woman who shall solicit of any person any medicine, drug, or substance, or anything whatsoever, and shall take the same, or shall submit to any operation or other means whatsoever, with intent thereby to procure a miscarriage, shall be deemed guilty of a misdemeanor, and shall, upon conviction, be punished by imprisonment in the county jail not less than three months nor more than one year, or by a fine not exceeding one thousand dollars, or by both such fine and imprisonment. 2 R. S., 694, § 21.

"It is a well-settled rule of law that a person can not be compelled, under any circumstances, to answer a question where the answer would convict or tend to convict the person of a crime. Ladies, your secrets are with yourselves, and yourselves alone, whether in the street, at your homes, or as a witness, and you need answer no question when the answer would in any way tend to harm you, as stated above, or to make you liable under this statute to a criminal action. And, ladies, should you ever require legal assistance in any of these matters, of course employ such counsel as you think proper; but, if you are not pecuniarily able, or too delicate to act in the matter, notify me, and I will protect you at my own expense.

(Signed.) "Dr. ——

"S——, N. Y."

[*] Weed *vs.* People, 3 Thomp. & C., 50.

[†] Com. *vs.* Brown, 121 Mass., 69.

In regard to the effect and importance which the jury should give the evidence relative to the surgical instruments, the trial judge properly instructed them as follows: "The possession by a physician of surgical instruments adapted to use in procuring the miscarriage of pregnant women would be explained consistently with that physician's innocence of any intention to use them for unlawfully procuring miscarriages, if they were instruments also adapted equally to other and legitimate uses in surgery or midwifery, unless their extraordinary number and variety was in more than ordinary proportion to the whole number and variety of surgical instruments possessed by him, or the exigencies of his practice furnished him occasion for using; but the significance, as evidence, of the possession of any number or variety of surgical instruments adapted especially to procuring miscarriage of pregnant women, would more or less depend upon circumstances, usual or unusual, ordinary or extraordinary, attending the mode of their possession and keeping, and the exigencies of such physician's practice."

The jury in this case rendered a verdict of guilty, which the supreme court, upon appeal, refused to interfere with.

Similar to the rule of evidence admitting the circular and the instruments in evidence in the cases above examined is that under which a mother-in-law was permitted to testify that defendant had a conversation with her in which the defendant, after being informed that deceased was pregnant and desired to be relieved of her child, said, "Send her to me," and stated in effect that she had operated successfully five times on one person. Upon further questioning the witness testified that she informed her daughter-in-law of this conversation before leaving home to undergo the treatment which proved fatal.* And so, in another case,† the State was permitted to show by four different witnesses conversations had with the defendant extending through a period of four years preceding the act of which defendant was accused, showing a willingness and a preparedness to commit the crime for which she was then on trial. The evidence showed that to one witness defendant stated that she had the instruments with which to produce abortion, and had got rid of a number of children; that she showed witness the instruments, at the same time saying that if she wanted any help she could help her. To another she stated that she had committed abortion, and could do it again; that she had the instruments to use in doing it. And to another she stated her terms for performing such services, which she then proffered to the witness, who was in the family way, and told her she had the instruments for the purpose. The admissibility of this evidence was vigorously contested, but the court held it admissible and proper.

Dying Declarations.—From the very nature of this class of cases, dying declarations, and facts and statements forming part of the *res gestæ*, are often an essential feature in the chain of evidence upon which the jury is asked to base a verdict of guilt. It therefore is desirable to examine more particularly the character of evidence of this sort which is admissible and proper to prove the case.

It has been heretofore shown that dying declarations must be made while *in extremis*, with a realization of the approaching end and after hope of recovery is abandoned. Also that they are admissible only in cases of homicide. Whether this condition does not entirely bar out dying declarations in abortion cases is a question upon which the courts of different States differ, some of them holding that they are not admissible in this class of cases at all. Among the latter are the courts of Pennsylvania,* Ohio,† and New York.‡ In New York, however, the legislature has, since the decision referred to, made dying declarations admissible in this class of cases. In these States the reasoning of the court is that the crime for which the defendant is being tried is not the killing of the patient, but the procurement of the abortion, and that the incidental death of the patient does not change the nature of the prosecution, but merely aggravates the penalty. The better opinion probably is that the death of the patient from the unlawful act of the accused gives to the offense the character of a felonious homicide, and that the reason for applying the rule is quite as plain as in cases of any other sort of homicide.#

A dying declaration, in order to be competent, must, however, be a statement of material facts concerning the cause and circumstances of the homicide. Thus, when deceased said, "O Aleck, what have we done? I shall die!" the statement was held inadmissible, as it contained no reference to the cause of death, and was not made for the purpose of explaining any act connected with the death.|| Nor is it sufficient that the statement should relate to a distinct fact or transaction which is the remote cause of the act producing the death. Thus, in the case where the theory of the prosecution was that the defendant had seduced the deceased, the following dying statement was held inadmissible: "He is the cause of my death. Oh, those horrible instruments! Laws is the cause of my death, he is my murderer. They abused me terribly." In regard to the nature of this statement, the court said: "These declarations did not necessarily refer to any attempt to produce an abortion. They are as plainly referable to the former relations of the parties. If it be true that the defendant had gotten the deceased with child, then her declarations were such as she might naturally make in her extremity, about her seducer, without intending to charge him with any more than her seduction. The expression, 'Oh, those horrible instruments!' might indicate that instruments were used, but in no wise

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* Com. *vs.* Holmes, 103 Mass., 440.

† People *vs.* Sessions, 58 Mich., 594, 26 N. W. Rep., 291.

* Railing *vs.* Com., 110 Pa. St., 100.

† State *vs.* Harper, 35 Ohio St., 78.

‡ People *vs.* Davis, 56 N. Y., 95.

# Montgomery *vs.* State, 80 Ind., 338, 41 Am. Rep., 815.

|| People *vs.* Olmstead, 30 Mich., 431.

charges the defendant with having used them or aided in their use." * In another case † the court, in commenting generally upon the admissibility of this class of evidence, said: "The rule that dying declarations should point distinctly to the cause of death, and to the circumstances producing and attending it, is one that should not be relaxed. Declarations at the best are uncertain evidence, liable to be misunderstood, imperfectly remembered, and incorrectly stated. As to dying declarations, there can be no cross-examination. The condition of the declarant in his extremity is often unfavorable to clear recollection, and to the giving of a full and complete account of all the particulars which it might be important to know. Hence, all vague and indefinite expressions, all language that does not distinctly point to the cause of death and its attending circumstances, but requires to be aided by inference or supposition in order to establish facts tending to criminate the (defendant), should be held inadmissible."

Res Gestæ.—In regard to the admissibility of statements as part of the *res gestæ*, the general rule has been observed that the statements must be contemporaneous with the main fact under consideration. The meaning of the term contemporaneous, as here used, is not necessarily that the conversation must have taken place at the same moment that the operation was performed. Thus, when deceased left defendant's office, where the operation had presumably just been performed, walked across the street, and met a friend who accompanied her to that spot, and said, "Oh, dear, I feel weak!" the exclamation was held admissible.‡ This exclamation, however, might have been admitted also upon the ground that it was an expression of bodily feelings. Also, conversations had relative to the purpose of an intended visit to the physician's office before departure are held admissible to show that the patient had formed the purpose of going to the defendant to have an abortion performed. Thus it was held proper to allow the roommate of deceased to testify that on the day the abortion was alleged to have been committed, she loaned deceased ten dollars, and to state what deceased said she was going to do with it, and where she was going that afternoon, and for what purpose. It was also held proper to permit the witness to testify as to conversations had with deceased on the Wednesday and Friday before the Saturday on which the operation was supposed to have been performed. In these conversations witness testified that deceased said that she understood or had found out that she was in the family way; that she had been to see the defendant about it; had been or was going to defendant to get some medicine or a syringe; that she had made an arrangement with the defendant to have an operation performed upon her; was to give twenty-five dollars, and was to return to the defendant's on Saturday afternoon for the purpose of having instruments used to get rid of the child. Upon the admissibility of these conversations the supreme court said: "It was certainly competent to prove that the deceased went to the house of the defendant at the time it was charged in the information the abortion was produced. Upon the authorities, her intent or purpose in going there might be shown by her declarations then made or previously made; because such declarations become part of the *res gestæ*. For it is evident the declarations were connected with the act of her going to the defendant; were expressive of the character, motive, or object of her conduct; and they are to be regarded as verbal acts indicating a present purpose or intention, and therefore are admitted in proof like any other material facts." *

In the case of Hays *vs.* State † the evidence showed that deceased left her home and came to the house of the defendant, where she was operated upon to produce an abortion. After the operation was performed a physician was called to attend her. This physician was subsequently placed on the witness stand by the defense and testified that deceased complained of a pressing and burning in the stomach; he also testified that she said that she had "been taking some stuff," and that on the way from her home to the defendant's house, a distance of six or seven miles, something like a lump dropped from her, and that she did not know what was the matter with her. In regard to the admissibility of this evidence the court held that such part of her statements as related to her then condition, the seat of her pain, its character and extent, and any expression of mental or bodily feelings was admissible and proper; but that which she stated regarding her having "been taking some stuff" and what happened to her on her journey was a mere narrative of what had taken place before the physician visited her, and was not legally admissible, either as a dying declaration (the deceased not having been shown to be *in extremis* when the statement was made) or as part of the *res gestæ*.

(*To be continued.*)

Pith of Current Literature.

Guaiacol in the Treatment of Lupus.—Funck (*Monatshefte für praktische Dermatologie*, 1899, No. 5; *Klinisch-therapeutische Wochenschrift*, September 10th) reports two cases of disseminated lupus vulgaris treated with applications of guaiacol. Both were in children three years old in whom the lupus had made its appearance immediately after an attack of measles. In the first case two months of penciling with pure guaiacol accomplished the entire disappearance of the lupous nodules, which were replaced by white scars. In the second case three months of the treatment were required. The applications were made twice a day. The author holds that guaiacol is indicated only in disseminated lupus, and that in other varieties it does no notable good. The treatment is painless and extremely simple.

A Case of Acute Fat Necrosis Terminating in Recovery.—Dr. L. L. McArthur (*Chicago Medical Recorder*, October) records a case of fat necrosis which terminated in recovery. The patient, a woman, was brought into Michael Reese Hospital in a state of profound collapse with a history of having been seized with a sudden pain in the abdomen, of intense character, resembling somewhat a hæmorrhage. The abdominal symptoms were sufficiently clear to conclude that fluid had escaped into the abdominal cavity. This fluid could be determined by percussion, and change of position. Whether the fluid came from the rupture of an appendiceal abscess, a ruptured gall bladder, ulceration from stone, or from a perforation of the stomach, was difficult to decide. From the collapsed condition, subnormal temperature, feeble pulse, sudden onset, and fluid in the abdomen, some thought it pointed to rupture of the gall bladder or a perforation of the stomach.

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* State *vs.* Baldwin, 79 Iowa, 714, 45 N. W. Rep., 297.

† State *vs.* Center, 35 Vt., 378.

‡ Com. *vs.* Fenno, 134 Mass., 217.

* State *vs.* Dickinson, 41 Wis., 299.

† Hays *vs.* State, 40 Md., 633.

On opening the abdomen, after a hasty preparation, it was found that the cavity contained a considerable quantity of dark, straw-colored fluid, tinged brownish by blood, and fluid was seen to be oozing from the lesser peritoneal pouch through a small opening in the omentum. On enlarging the opening with the fingers, a large quantity, perhaps a pint and a half, of the same kind of fluid escaped. The mesentery of the intestine presented that almost indescribable, but once seen very vividly remembered, condition which we recognize as acute fat necrosis, with sharply defined yellowish or whitish-yellow areas, that looked almost like a layer of plastic lymph, but on putting the finger on it it will be recognized as being beneath the peritonæum. The finding of this fluid in the lesser peritoneal pouch led at once to the thought of the emptying of a pseudocyst of the pancreas into this pouch, as not uncommonly happens, thus making the diagnosis clear.

No routine surgical treatment has been recommended for these cases in the text-books. They generally die before treatment can be instituted. In this case the lesser peritoneal pouch was widely opened and packed with an enormous Mikulicz. After the abdominal cavity had been rinsed out with a gallon or more of hot saline solution a glass tube drain was passed down into the lower portion of the pelvis, leaving the abdomen largely wide open.

For the first five or six weeks the patient lingered between life and death, during which time masses of gangrenous tissue of varying sizes sloughed through the wide opening which the Mikulicz sac had occupied. A pathological report of these fragments, as given by the pathologist of the Michael Reese Hospital, Dr. Eisendrath, states that they were simply gangrenous connective-tissue masses. The fluid contained a ferment which, acting on starch, would then reduce the sugar-test solution. These areas of fat necrosis have been proved largely to be due to the combined action of trypsin (pancreatic ferment) and bacteria, the *Bacillus coli communis* being found there. This brings up the point that the ætiology of these pancreatic troubles may be due to the extension of this infective material to the Wirsung duct which leads into the pancreas. Just as catarrhal duodenitis may extend up into the bile duct, so it may extend to the pancreatic duct.

Post-hæmorrhagic Blindness. — Theobald (*Johns Hopkins Hospital Bulletin*, May; *International Medical Magazine*, September) reports a case of atrophy of both optic nerves following severe hæmorrhage of the stomach in a man of fifty-seven years. After an inquiry into the literature of the subject, and a careful consideration of the case under his observation, he concludes: 1. That the weight of evidence afforded by the ophthalmoscope points to thrombosis of the central retinal artery as the usual cause of blindness occurring in post-hæmorrhagic anæmia. 2. That the resistance offered to the already enfeebled blood current in the central retinal artery by the intraocular tension is an important ætiologic factor in determining this result. 3. That, in exceptional instances, the ophthalmoscope indicates that thrombosis occurs not in the artery but in the central retinal vein. 4. That, in other exceptional instances, it may be that the loss of sight and the ophthalmoscopic changes which accompany it are the result of a hæmorrhagic or serous effusion into the optic nerve or its sheath (Samelsohn). And here, again, the obstruction and damming back of the blood current in the central retinal artery by the intraocular tension probably have much to do with bringing about the result.

The Transference of Tactile Sensations into Visual Ones.—Dr. Frank R. Fry (*Journal of Nervous and Mental Disease*, August) recently related to the American Neurological Association the following very interesting case. He said that the subject was a hysterical girl, aged fourteen years, who before the time that his examinations were made, in January, February, and March, 1898, had been under the observation of Dr. George M. Tuttle, who felt secure in a diagnosis of ulcer of the stomach on account of hæmorrhage, pains, etc—in fact, typical symptoms with subsequent exhaustion. In this exhausted condition she had repeated attacks of delirium, alternating with more quiet hallucinatory states. She had frequently hemiopic hallucination and monocular diplopia. Soon after coming under the author's observation there appeared a complete anæsthesia and paralysis of the whole right side. She was anæsthetic to touch, temperature, and pain tests made in the usual way.

Dr. Fry had no difficulty in reproducing the Binet experiments in this girl. He directed her to look at the wall (a plain white surface) on the left side of her bed and to tell him what kind of *objects* she saw there. He then traced on the anæsthetic (right) arm and forearm various simple geometrical figures: triangles, squares, circles, etc. She saw them distinctly on the wall, naming them without hesistation from the first. Letters and numerals carefully traced were recognized in the same way. The tracings were lightly made with the finger nail or an ordinary lead pencil not much sharpened. When directed to look at a colored screen during the tracing she always saw the figures surrounded by the color complementary to the one before her—*i. e.*, while looking at the blue screen she saw the figures in a red (orange?) field and *vice versa*. Only blue and red screens were used, but other tests revealed a perversion of color perception.

Simple objects placed in the anæsthetic hand and the hand closed upon them, were seen upon the screen—*e. g.*, an opened match box. A silver dollar was recognized as a disc. A handkerchief was tied about the wrist. She immediately announced on the screen "a dark arm and hand with a dark cloth tied around it." Other tests quite as interesting were made, serving to draw attention to an interesting hysterical phenomenon —namely, that while the subject could not recognize in the ordinary way certain sensory impressions (tactile), she could interpret them by the aid of another sensory function (visual). The author says that the experiment of transferring by suggestion a hysterical anæsthesia from one area to another is a familiar one. What he had just described is similar, but it is not exactly parallel. In the latter case a more complicated psychic process takes place.

Dr. Fry said that it might not be out of place to state that great care was used in conducting these experiments. The nurse was carefully cautioned; and only she and persons who understood the necessity of caution were admitted to the room when the examinations were being made. The patient never knew at any time that the tracings were made upon the arm, or that this member was used in any way in the process. She was curious to understand how the pictures were produced. She constantly besought the nurse for an explanation, who finally told her that a small magic lantern was used for the purpose. She then frequently asked me when I would allow her to see the lantern. She was an intelligent and tractable child, a very good subject for this kind of work.

Dr. H. Hermann, Dr. Given Campbell, and Dr. M. A. Bliss, all familiar with neurological work, witnessed the examinations. Subsequently the patient was under the care of Dr. E. C. Runge at the City Insane Asylum.

The Mechanics of Fractures.—Mr. Arbuthnot Lane (*Edinburgh Medical Journal* for September) says that it is now several years since he showed that the accepted teaching on the subject of the mechanics and treatment of fractures was incorrect, and founded on no scientific basis whatever. This view met at first with almost universal opposition, while the accuracy of his statements was called in question. Fortunately, the advent of the X rays two or three years later furnished him with undeniable evidence that could be applied to any and every case. Briefly he demonstrated: 1. That the supposition that the surgeon is able to restore the broken bone to its normal form, or, as it is termed, to set the fracture by manipulation, etc., and to retain it in position by splints and other means, is, except in a few cases of transverse fracture, quite wrong. 2. That muscular contraction exerts practically no influence in opposing restoration of the broken bone to its original form. 3. That the whole of the soft parts surrounding the bone, whether muscles, skin, or fascia, act as ties in its length, and that the hæmorrhage into and beneath these ties, with the inflammation consequent on it, are the mechanical factors which prevent accurate apposition of its fragments. 4. That the only manner in which the bone can be restored to its original form is by an operation. When the fracture has been exposed, it is possible, by the exercise of great traction upon the fragments, assisted by powerful lion forceps and elevators, to fit them accurately together. The difficulty in doing this is very much greater in the case of the lower extremity than in that of the upper; indeed, there are few operations which are more difficult than the restoration in form of the tibia and fibula, broken by indirect violence. In this variety of fracture the bones are broken so as to form a spiral, with sharp angles upward and downward. It is the very great difficulty that surrounds the operation in this particular locality that will always stand in the way of its general application. A complication of considerable importance is that of comminution of the ends of the fragments. It often adds largely to the difficulties that surround surgical interference, and will sometimes tax one's ingenuity to the utmost.

One can generally fasten the perforated fragments to the shaft and to one another with silver wire, while sometimes a loop encircling the fragment and shaft may be of more service. These are, however, details. What he learned from this particular complication was, that one could utilize fragments of bone which were quite loose in the wound, providing they were secured firmly in position. This led him to employ the bones of other animals in these and similar conditions, when additional support was required. He found that it was necessary to fix such bones sufficiently firmly to prevent any movement, in order to insure their living.

Book Notices.

A Manual of Diseases of the Nose and Throat. By Cornelius Godfrey Coakley, A. M., M. D., Clinical Professor of Laryngology in the University and Bellevue Hospital Medical College, etc. Illustrated with Ninety-two Engravings and Two Colored Plates. New York and Philadelphia: Lea Brothers & Co., 1899. Pp. viii–2 to 536. [Price, $2.75.]

This work naturally covers familiar ground. Manuals on rhinology and laryngology have become very plentiful during the last ten years. It can be said that the one now under consideration covers the ground extremely well. Historical questions are omitted and in brief paragraphs the author has succeeded in setting forth with clearness the various clinical aspects of the maladies commonly met with. An occasional awkward expression creeps in here and there but does not materially mar the value of the manual.

A special feature of those portions devoted to treatment deserves commendation. Many writers, especially those for beginners, are apt to confuse their readers with a multiplicity of therapeutic suggestions. In the present instance, the author has selected those remedies and measures which in his own experience have given the best results. The use of different sizes of type in the index makes the reference to therapeutics very easy.

We would also commend the simplicity of the author's system of therapeutics. Thus he says that a normal salt solution made in sterilized water is one of the best general cleansing agents for the nose and nasopharynx. A straightforward statement like this is refreshing in these days of complicated formulæ.

Minor Surgery and Bandaging; including the Treatment of Fractures and Dislocations, the Ligation of Arteries, Amputations, Excisions, and Resections, Intestinal Anastomosis, Operations upon Nerves and Tendons, Tracheotomy, Intubation of the Larynx, etc. By Henry R. Wharton, M. D., Demonstrator of Surgery in the University of Pennsylvania, etc. Fourth Edition, thoroughly revised and enlarged, with Five Hundred and Two Illustrations. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. ix–594. [Price, $3.]

This excellent little book is divided into six parts. The first part is devoted to bandaging, and describes in a terse yet comprehensible manner, which at once draws our attention and invites us to read further, the various forms of bandage, together with the proper method of applying them. Minor surgery is the title of part ii, the introductory chapter being a very interesting treatise on surgical bacteriology. The theories of aseptic and antiseptic wound treatment have advisedly been given considerable space, and we note in the description that the operative technique of both methods has been separately pictured. The author has avoided partiality for either method and allows the reader to choose for himself.

Parts iii and iv are devoted to fractures and dislocations. The writer has confined himself to the more common ones, and has avoided all complicated forms. The treatment described is simple, and the result is a very lucid yet scientific article. Such operations as may be practised on the cadaver have been included in parts v to vii, together with a description of the instruments needed and their proper use, thus completing a volume which the student will surely find useful and instructive.

A Compend of the Practice of Medicine. By DANIEL E. HUGHES, M. D., Physician-in-chief, Insane Department, Philadelphia Hospital, etc. Sixth Physicians' Edition. Thoroughly revised and enlarged. Including a Section on Mental Diseases and a very Complete Section on Skin Diseases. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. viii–9 to 625. [Price, $2.25.]

IT is not the object of the author to cover the whole field of medicine; his purpose is best explained by the preface, from which we quote: "It was not intended that the compend should in any way replace the text-books upon the practice of medicine, but, on the contrary, it was written to be an aid to the medical student at a time when practical demonstrations and ward classes were the exception in the college curriculum." That the object aimed at has been accomplished will be evident to any one who reads this very interesting volume.

All familiar medical diseases appear under separate headings and are dealt with in a succinct yet graphic manner. The writer has devoted more space to the ætiology and pathology of disease than is usually found in so small a work.

The Medical Directory of New York, New Jersey, and Connecticut. E. ELIOT HARRIS, M. D., Editor. Volume I.

THIS, the first volume of the *Medical Directory of the States of New York, New Jersey, and Connecticut,* contains the names of physicians, dentists, and pharmacists residing within their limits. The total number of names recorded reaches 19,161, of which 11,625 are physicians, 2,798 dentists, and 4,738 pharmacists. There is also a great deal of general information, which adds materially to the value of the book.

A Compend of Gynæcology. By WILLIAM H. WELLS, M. D., Adjunct Professor of Obstetrics and Diseases of Infancy in the Philadelphia Polyclinic, etc. With Illustrations. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xii–17 to 279. [Price, 80 cents.]

THIS volume admirably suits the purpose for which it is intended. The subjects have been well selected and carefully arranged. All the more important facts in gynæcology are concisely dealt with.

A number of changes and additions appear in this edition, especially in the field of operative gynæcology, which have become necessary because of the rapid advances which have been made since the appearance of the first edition. More recent methods of diagnosis and treatment have also been substituted wherever it has been found necessary to bring the book up to date.

The author has succeeded in presenting us with a useful little book, which compares most favorably with others of its class.

BOOKS, ETC., RECEIVED.

System of Diseases of the Eye. By American, British, Dutch, French, German, and Spanish Authors. Edited by William F. Norris, A. M., M. D., and Charles A. Oliver, A. M., M. D., of Philadelphia. Volume IV. Motor Apparatus, Cornea, Lens, Refraction, Medical Ophthalmology. With Fifty-one Full-page Plates and Two Hundred and Eleven Text Illustrations. Philadelphia and London: J. B. Lippincott Company, 1900. Pp. xii–3 to 949.

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Gynæcology, Obstetrics, Ophthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology, and Specially Prepared Articles on Treatment and Drugs. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, Austria, France, Great Britain, and Canada. Edited by Judson Daland, M. D. (Univ. of Penna.), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania, etc. Volume III. Ninth Series. Philadelphia: J. B. Lippincott Company, 1899. Pp. vii–298.

Transactions of the Michigan State Medical Society. For the Year 1899. Volume XXIII.

Report of Commission of Medical Officers detailed by Authority of the President to Investigate the Cause of Yellow Fever.

Mortality Statistics in the United States for the Year ending December 31, 1897. Annual Report, Marine-Hospital Service, 1898.

Yellow Fever: its Nature, Diagnosis, Treatment, and Prophylaxis, and Quarantine Regulations relating thereto. By Officers of the United States Marine-Hospital Service, 1898.

The Shipment of Merchandise from a Town Infected with Yellow Fever. By Surgeon H. R. Carter, United States Marine-Hospital Service.

Train Inspection in Yellow-fever Epidemics. By Surgeon H. R. Carter, United States Marine-Hospital Service.

Report on Formaldehyde Disinfection in a Vacuum Chamber. By Passed Assistant Surgeon E. K. Sprague, United States Marine-Hospital Service.

Testimony in Regard to the Use of Preservatives in Food Products at the Pure Food Hearings before the Committee on Manufactures, United States Senate.

A Visit to the Loomis Sanitarium for Consumptives. By Guy Hinsdale, M. D., of Philadelphia. [Reprinted from the *University Medical Magazine.*]

The Cold Wave of February, 1899. By Guy Hinsdale, M. D. [Reprinted from the *Transactions of the American Climatological Association.*]

Ureteral Anastomosis. By George H. Noble, M. D., of Atlanta. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

An Indispensable Part of Drug Valuation. By E. M. Houghton, M. D., of Detroit. [Reprinted from the *Bulletin of Pharmacy.*]

Human Hæmoglobin in High Altitudes. By W. H. Bergtold, M. D., of Denver. [Reprinted from the *Philadelphia Monthly Medical Journal.*]

New Inventions, etc.

AN IMPROVED FORMALDEHYDE REGENERATOR.

By George L. Taylor, C. E. (Bost. Inst. Tech.),
NEW YORK.

It is natural to assume that in the application of a new process to practical requirements many details, not obvious at first or apparently of minor importance, will demand attention in order to insure its successful operation. This has been especially true in regard to the methods employed in making use of formaldehyde gas as a disinfectant.

Laboratory experiments had demonstrated its germicidal power beyond controversion, but when it was practically employed in house disinfection the results attending its use were not uniformly satisfactory, as has been shown by the published reports.

Up to the present time, the liberation of gas by heat from the aqueous solution presents the most convenient and economical method of employing it in sanitary work. In order to obtain the highest efficiency, the vapor resulting from the evaporation of the solution must be discharged into the apartment undergoing disinfection at a temperature sufficiently high to insure the complete dissociation of the gas from the watery vapors; otherwise a very considerable percentage of formaldehyde will be precipitated with the condensed vapor, and the germicidal value of the solution employed will be diminished by that amount. The temperature of the boiling point is not high enough to produce the desired effect, and all apparatus operating on that principle will give unreliable results, especially in cold weather, unless an extravagant quantity of solution is evaporated.

An apparatus recently designed by the writer embodies the results of several years of practical experience with formaldehyde, and solves the problem by its simple method of superheating the vapors obtained by boiling the solution and discharging the gas at a very high temperature.

The apparatus consists of a strong copper receiver, holding about three quarts, supported over a heating lamp. Under this receiver is a copper superheating chamber connected with the interior of the dome of the receiver by a vertical tube. From the side of this chamber a brass pipe connects with a flexible copper tube of small diameter, through which the gas is discharged.

The solution is boiled in the copper receiver, and the resulting vapors collect in the dome, pass down through the vertical tube into the incandescent superheating chamber, and are discharged through the flexible copper tube. The formaldehyde gas generated by this apparatus is absolutely dry, and has been found seventy-five per cent. more powerful as a disinfectant than moist gas, as generated by other apparatus. The entire process is automotive; there are no valves or small passages to stop up and heat, which is the fault of all previous apparatus. The entire apparatus is so simple it can be readily understood and operated by any one.

Bacteriological tests made under the direction of the New York Health Department have been uniformly satisfactory, and it is now employed by that department for ambulance and general disinfecting work, supplanting various other forms of apparatus previously used. It is also employed by Dr. Alvah H. Doty, health officer of the port of New York, in general quarantine work. The apparatus is manufactured and sold by the H. K. Mulford Company, of Philadelphia.

Miscellany.

Voluntary Suspended Animation.—The reviewer of the translation of Max Verworn's *General Physiology* by Dr. Frederick S. Lee, of Columbia University, in the *Scottish Medical and Surgical Journal* for September, says:

"The distinction between living and lifeless organisms is dealt with in an interesting and suggestive manner. He refers to the belief which seems to have existed for a long time in India, that many men, especially fakirs, have the remarkable power of voluntarily putting a complete stop to their lives for a time, and later resuming them undisturbed and unchanged. He quotes a remarkable case recorded by James Braid, surgeon, whose observations on mesmerism are well known. At the Palace of Runjeet Singh—a square building which had in the centre a closed room—a fakir who had voluntarily put himself into a lifeless condition was afterward sewed up in a sack and walled in, the single door of the room having been sealed with the private seal of Runjeet. In order to exclude all fraud, Runjeet, who was not himself a believer in the wonderful powers of the fakir, had established a cordon of his own bodyguard round the building; and in front of the latter four sentinels were stationed who were relieved every two hours, and were continually watched. Under these conditions the fakir remained in his grave for six weeks, when the building was opened in the presence of Runjeet Singh, and the seal and all the walls were found uninjured. In the dark room, which was examined with a light, the sack containing the fakir lay in a locked box which was provided with a seal, also uninjured. The sack, which presented a mildewed appearance, was opened, and the crouching form of the fakir taken out. The body was perfectly stiff. A physician who was present found that nowhere on the body was a trace of a pulse beat evident. In the meantime, the servant of the fakir poured warm water over the head and laid a hot cake on the top of his head, removed the wax with which the ears and nostrils had been stopped, forcibly opened the teeth with a knife, drew forward the tongue, which was bent backward and repeatedly sprang back again into its position, and rubbed the closed eyes with butter. Soon the fakir began to open his eyes, the body began to twitch convulsively, the nostrils were dilated, the skin, heretofore stiff and wrinkled, assumed gradually its normal fullness, and in a few minutes later the fakir opened his lips, and in a feeble voice asked Runjeet Singh, 'Do you now believe me?'

"An analogous case is reported from Dublin, where Dr. Cheyne, a physician well known in scientific circles, narrates of a Colonel Townsend 'that he could die or expire when he pleased, and yet by an effort or somehow come to life again.'

"While tales of Indian fakirs are calculated to excite distrust, and impostors trade on the credulous for purposes of gain, the fact remains attested by well-authenticated cases, that certain men can voluntarily put themselves into a state in which no vital phenomena are demonstrable by more or less careful examinations, and can awake later to normal life. In this connection the hibernation of animals must be mentioned, and also the observation of Leeuwenhoek that in the dust of houses and towns animalcules exist which are capable of drying up completely, without losing the power of awaking to active life upon being moistened with rain water.

"These rather remarkable observations may throw a side light on those melancholy cases which hospital physicians are occasionally called upon to treat, where the patient has made up his mind to die after the lapse of a certain period; and though, by careful examination, no cause can be discovered for such a prognosis, death actually does follow as predicted."

The Central Nervous System in Acute Malarial Infection.—At a meeting of the New York Neurological Society held on October 3d Dr. James Ewing read a paper on this subject. He introduced it by reporting three cases. The first was one of æstivo-autumnal malarial fever, with marked cerebral symptoms and infection with a single well-defined group of parasites. The patient was a soldier who had just returned from Cuba. The stupor lasted thirty-six hours prior to death. Two days before death there were many ring-shaped organisms in the blood. The stupor began twelve hours after sporulation occurred. At the autopsy the viscera showed the lesions of severe malarial infection. The capillaries of the cerebrum, cerebellum, medulla oblongata, and cervical spinal cord contained a large number of cells harboring parasites. Many capillaries were occluded by thrombi. The ganglion cells showed everywhere a reduction in size, irregularity, and splitting or loss of the chromatic bodies. Death was due to the massing of the parasites in the capillaries.

In the second case the patient had chills on alternate days for several days, and, on admission, had a pulse of 110, and was much prostrated. There were marked insomnia and mild delirium for a while; then the delirium became more marked, and finally there was coma, lasting for some time before death. There was no evidence that the coma was uræmic. The temperature reached 108° F. shortly before death. On October 12th the blood contained an enormous number of ovoidal, spherical, and crescentic bodies. On the 25th, or eight hours before death, very few crescents could be seen. None of the younger forms were found. The autopsy showed moderate œdema of the brain; the basal vessels were normal and very few parasites were present. The deposit of pigment in the brain was slight. Throughout the cortex the cells showed no marked change further than a uniform diminution in the chromatic substance. In many of the extracellular lymphocytes there were peculiar structures—elongated fibres or rods with tapering ends—of undetermined nature. The chief features of this case were the prolonged delirium and coma; yet the post-mortem examination showed far less change in the kidneys than was usually seen in profound malarial infection.

The third case was one of fatal malarial infection associated with hæmoglobinuria. This man had contracted malaria in Santiago in July, 1898. He was comatose, extremely emaciated, excessively anæmic, and moderately jaundiced. He was at Camp Wikoff for three days prior to death. The dura and pia were distinctly jaundiced. The cerebrum, cerebellum, and medulla showed the usual injection of vessels with blood, but the vast majority of the vessels were free from the parasites. An abundant deposit of hæmatoidin in the kidneys was interesting.

Commenting upon these cases, the speaker said that when the brain cortex was decidedly brownish it indicated usually the presence of a large number of parasites, but this was not an invariable rule. The majority of cases of malarial coma did not exhibit the massing of the parasites in the brain. Of eight cases in which he had examined the brain after death, in none had there been a distinct brownish discoloration of the brain. Hæmorrhages had been found in some cases, as had also a moderate degree of œdema. Usually the parasites were uniformly distributed in the brain and spinal cord, but a case had been reported in which they had been localized in the medulla. The number of these parasites was often enormous, and complete occlusion of the vessels was not at all uncommon. While most of the fixed pigment was found in the endothelium, the parasites were rarely seen in the endothelial cells. To the general condition of the obstructed circulation it was probably safe to refer the cerebral symptoms observed in these severe cases of malarial infection. The ganglion cells, in cases of malarial coma, had been studied, and the changes found to consist chiefly in the various degrees of chromatolysis. The dendrites were usually involved before the cell body. The ganglion cells appeared to suffer less than in the average case of typhoid fever. The mere presence of the parasites in the tissues seemed to exert no bad influence except in a mechanical way. In one of the cases reported in the paper the deepening of the comaa could be apparently connected with the progressive filling of the capillaries with the parasites and the formation of thrombi. In the two other cases the parasites were few and the pigment was scanty. In both these cases the malarial infection was exceedingly severe. These cases showed that the coma of malaria was not always referable to the presence of the cerebral parasites. Of the writer's sixty-four reported cases of malarial coma, there were five simple tertian infections. In the æstivo-autumnal cases, with crescents only in the blood, there were thirty-four instances from the Montauk camp. Coma appeared to be rather frequent in cases showing only crescents in the blood. Crescents did not exhibit such a tendency to unequal distribution as the fertile forms did. From the condition of the viscera found in the second and third cases reported—and this variety occurred especially in cachectic individuals in whom the disease had existed for some weeks—it seemed probable that the coma was the result of the general and profound malarial infection. The speaker did not believe that much importance should be attached at the present time to the condition of the ganglion cells in malarial infection. When the coma resulted from the massing of the young parasites in the brain, it was generally gradual in onset, and the prognosis was very unfavorable. In some cases the coma developed suddenly and was more amenable to appropriate treatment. The general clinical character of these cases indicated that an embolic process was concerned in their causation. Of eleven cases of the first class, reported by the writer, ten proved fatal. To summarize: The three anatomical conditions were: 1. The mechanical obstruction of the cerebral capillaries by large numbers of young parasites. 2. An embolic process causing occlusion of some vessels (usually temporary) by parasites or pigmented leucocytes. 3. A general toxæmia, such as might occur in other infectious diseases, the blood showing few, if any, autumnal rings.

An International Scientific Language.—According to the *British Medical Journal* for October 14th, delegates of all the European scientific academies have met, on the invitation of the Prussian Academy of Sciences, in Wiesbaden for the discussion of some questions of international importance. Opinions are to be taken as to the possibility of establishing a uniform scientific language, and a uniform language for general intercourse—Latin for the former, English for the latter. Whether this result will be attained by the Wiesbaden meeting, whether it is attainable at all in our present multinational civilization, is very questionable. But the fact that distinguished and eminent representatives of science have come together from all European states and from America for the purpose of seeking a way toward the realization of more complete mutual understanding, thus forming, so to speak, a peace conference of science—this fact in itself is of the highest significance.

Some Present Phases of Neurology.—Dr. James Hendrie Lloyd, president of the American Neurological Association (*Journal of Nervous and Mental Disease*, August), in his presidential address, said that the science of neurology presented several phases at this time which were worthy of special note.

In the first place, if he mistook not, it had grown somewhat lukewarm with reference to the revelations of bacteriology as affecting problems arising in its own domain. The reason for this might be due in part to some disappointment in not having realized as much as it expected from the doctrines of infection. Certainly, from a therapeutic standpoint the returns had been coming in rather slowly from the bacteriologists, and we were not prepared yet to say that we had a reliable serum treatment for many nervous diseases. We could not to-day reecho the optimistic sentiment of a former occupant of this chair, that we would yet put a stop to the funeral march of our patients through our consulting rooms. If the hypodermic syringe, loaded with animal serums of every grade and variety, was to do all this, let us bid good speed to the day when neurology would be but the handmaiden of her younger sister, bacteriology, and the syringe would have usurped the place of the microscope in our affections. In pathology, however, there was no occasion for disappointment, for it seemed almost certain that we were at least on the threshold of a wide new field in cytology, in which much that would be done would probably owe much to our advanced knowledge of infection and of vito-chemistry.

While fully in sympathy with much of the enthusiasm which at present marked the study of the nerve cell, he thought he could see in this enthusiasm some of the extremes which periodically marked the progress of the medical sciences. We moved in cycles and epicycles in medicine, and like some primitive tribes we always worshiped the new moon. We were just now engaged in the cult of Nissl; we were at the high tide, as it were, of methylene blue. At another time it was the neurone theory which threatened to redeem our science. Again, we were called to trace the invisible fibrils of Apáthy, which we were assured would yet bind together not only a disjointed nervous system but also a fragmentary science. He made no doubt that some of us were too much given to extremes in some of these matters, and might see more promise through the small end of a microscope than Moses saw from Pisgah. It was not exactly a good thing to use the lamp of Aladdin to illuminate the field of a microscope. We should never forget that in our histological researches we were simply numbered among those who from time immemorial had been seeking to read in dead matter the mysteries of life. The problem which had forever refused to give an answer to the Hindu and the Greek, to a Newton and a Leibnitz, would probably not yield to our more importunate appeals, and the dead would continue to refuse to give up its secret of life. The fact that we had a new stain that would depict the contours of chromophilic bodies, did not alter the fact that those chromophilic bodies were still without assured physiological value, and that when we looked upon them we might be merely looking upon the products of our own clumsy handiwork. We might think that we were detecting life in its innermost recesses, whereas we were merely gazing upon the wreckage of the temple.

This was not merely the pessimism of a despairing medical philosophy. Such considerations, if rightly apprehended, might serve to remind us of our true functions as investigators of disease. Pathology, it might be rightly contended, was not the science of life, but of disease; and we accomplished our true aims if we, like the archæologists, could point out unerringly what had been the normal structure from a study of its remains, and could do something to reconstruct the ruins, even if we were not able to grasp all the mysteries of the original creative force. In the domain of the nervous system this was surely a fascinating study, for in that tissue were manifested the highest functions of organic matter.

Praise for the Bay State, Hospital Ship.—The *British Medical Journal* for October 7th, discussing the British needs in the event of a war in South Africa, says editorially: In the event of a ship being fitted up, we would strongly recommend the committee to read the report of the medical work of the Massachusetts Volunteer Aid Association during the Spanish war. Therein is detailed the fitting out, with marvelous dispatch, in the most complete up-to-date fashion, of a hospital vessel called the *Bay State*, which did admirable service on the coasts of Cuba and Puerto Rico. Especially would we commend the administration on board this vessel, the efficiency of which was only equaled by its simplicity.

The Thirteenth International Medical Congress.—The American committee of the congress, to be held in Paris from the 2d to the 9th of August, 1900, met at the University Club, Philadelphia, on October 21st, at the call of Dr. William Osler. There were present Dr. W. W. Keen, president of the American Medical Association (in the chair); Dr. George M. Sternberg, surgeon-general of the United States Army; Dr. William K. Van Reypen, surgeon-general of the United States Navy; Dr. Walter Wyman, surgeon-general of the United States Marine-Hospital Service; Dr. Horace G. Miller, president of the American Otological Society; Dr. E. D. Fisher, president of the American Neurological Association; Dr. George J. Engelmann, president of the American Gynæcological Society; Dr. H. W.

Stelwagon, president of the American Dermatological Association; Dr. Samuel Johnston, president of the American Laryngological Association; Dr. R. F. Weir, president of the American Surgical Association; Dr. A. Jacobi, president of the American Climatological Association; Dr. E. G. Janeway, president of the Association of American Physicians, and Dr. Henry Koplik, president of the American Pædiatric Society.

Letters of regret at inability to attend the meeting were reported from Dr. H. P. Bowditch, president of the Congress of American Physicians and Surgeons (absent in Europe); Dr. O. F. Wadsworth, president of the American Ophthalmological Society; Dr. James Bell, president of the American Association of Genito-urinary Surgeons; Dr. H. M. Sherman, president of the American Orthopædic Association; Dr. R. H. Chittenden, president of the American Physiological Society; Dr. B. G. Wilder, president of the Association of American Anatomists, and Dr. B. Holly Smith, president of the American Dental Association.

Dr. Osler stated that in May he had received instructions from the secretary of the congress in Paris to organize the American national committee. After consultation with Dr. W. W. Keen, the president of the American Medical Association, and Dr. H. P. Bowditch, the president of the Congress of American Physicians and Surgeons, he had nominated as members of the committee the presidents of the American Medical Association, of the Congress of American Physicians and Surgeons, and of the constituent societies composing the latter, the surgeons-general of the army, of the navy, and of the Marine-Hospital Service, and, at Dr. Keen's suggestion, the president of the American Dental Association.

Dr. Sternberg moved, seconded by Dr. R. E. Weir, that the American committee consist of the gentlemen just named. Carried.

Dr. Osler then read the following letter of instruction which he had received from Dr. Chauffard, the general secretary:

"Honored Colleague:

"I have the honor to state that I have sent you—

"1. A package of subscription blanks ('forms of adhesion').

"2. Some account books with stubs.

"1. *Subscription Blanks* ('*Forms of Adhesion*').

"Please distribute these blanks as widely as possible, sending them to universities, hospitals, learned societies, in a word, wherever you deem it possible to obtain subscribers to the congress.

"We have thought it wise to prepare these blanks in such form that they may be of a uniform type for all countries, which will facilitate the task of classification of the members.

"Please insist that your fellow-countrymen conform to all the directions which are therein contained.

"Pray distribute, together with our subscription blanks, announcements of your own, indicating the name and address of the representative of your committee to whom the subscribers in your country should address the subscription blanks when filled, as well as the corresponding funds.

"These susbscription blanks should be collated by you and sent to us in groups of fifty, with the visiting cards and the corresponding stubs of the record book (*vide infra*).

"It is then understood that these blanks constitute simply a sort of propaganda, and that we shall consider as members of the congress only those gentlemen who shall have sent to your committee the amount of their subscription, and shall have received in exchange the receipt from your account book (leaflet C).

"2. *Account Books.*

"The three account books which we have sent you (series 171 to series 173) represent each fifty subscriptions to the congress. We would call your attention especially to the detailed directions which appear on the first page of the book.

"The stubs of this book (leaflets A and B), which serve us at the same time for registration of the members and for our financial accounts, we beg you to fill out as legibly as possible, and not to forget to place the stamp of your committee at the point indicated on each of the three leaflets. This stamp will eventually indicate to us the origin of each inscription.

"This is but the first installment, and we shall be able to send you, if it be necessary, new account books as soon as you may request them. We beg you to send us the stubs as soon as each of the account books is filled, together with the amount of the corresponding subscription and the filled subscription blanks.

"We trust that these account books will facilitate the laborious task in which you have kindly lent us your assistance.

"Pray understand that we are entirely at your service to furnish you any further explanations which you may desire concerning our registration of members."

It will thus be seen that the work of each national committee of this congress is very different from that heretofore intrusted to them. Physicians in this country who wish to become members of the congress must apply to the secretary of the national committee, who will forward a blank of application, which is to be filled in and returned to the secretary, with a fee of five dollars.

Dr. Janeway moved, seconded by Dr. Wyman, that Dr. Osler be empowered to appoint a physician as secretary to the committee, and to secure such aid as would be required to carry on the work. The question of meeting the expenses of the committee was left to the chairman. If each national committee is expected to meet its own expenses, it was agreed to call either upon the treasurers of the societies represented in the committee or upon the individual members.

It was moved by Dr. Engelmann, seconded by Dr. Stelwagon, that the medical journals of the country be requested to aid in making known as widely as possible the conditions under which registration in the congress may be effected.

Dr. Osler announced that he would nominate Dr. Henry Barton Jacobs, No. 3 West Franklin Street, Baltimore, as secretary of the committee, to whom all applications for blanks should be sent.

While it is to be understood that the central committee wishes the subscriptions to be sent to the secretary of the national committee, rule 3 of the congress provides that persons wishing to be members may forward their subscriptions to the treasurer-general of the congress.

The Orleans Parish (Louisiana) Medical Society.—At a meeting held on October 14th Dr. O. Joachim reported two interesting cases. The first case was one of complete congenital osseous occlusion of the posterior nares in a child five years of age. The condition was unilateral and the thickness of the bony mass was of about the depth of the postnasal cavity. The treatment proposed was opening the passage by removal of the bone. In former instances Dr. Joachim had experienced difficulty in keeping the passage open.

The second case was one of septic phlebitis of the lateral sinus extending through the bulb into the internal jugular vein, cerebellar abscess, and periphlebitis, as the results of otitis media. The condition of the patient when first seen was very grave, showing intense pyæmia. The pulse was 140 and the patient was delirious at times. Offensive pus was oozing from the ear through a small perforation in the upper quadrant of the membrana tympani. There was no sinking of the roof of the canal. A typical mastoid operation was performed. The mastoid antrum was opened and cleared. Then the lateral sinus was opened after aspiration and found filled with pus. The incision was prolonged backward and an inch of the transverse sinus opened and found to be empty and cordlike. Just above it a cerebellar abscess of the size of a hazelnut was detected and drained. The tenderness and swelling along the line of the internal jugular vein were considered indicative of aseptic phlebitis. The vein was ligated just below the omohyoid muscle, incised, and drained of a quantity of pus. Water was then injected into the venous opening to cleanse the tract, and it was found to come freely through the wound in the lateral sinus.

On the fifth day the jugular wounds were discharging pus freely, and tubular drainage was employed. The mastoid wound was free of pus and progressing satisfactorily. The patient rested well and was taking food, but the rise of temperature still persisted, varying from 99° to 102° F.

The Experimental Production of Tumors.—Dr. H. Pierce Clark, of the Craig Colony for Epileptics, writes to us as follows: The mystery surrounding the ætiology of neoplastic growths is still far from being settled. Experimental investigation has been particularly active within the past two years. Studies upon the behavior of tissue implantation in animals have not as yet yielded all its possibilities. In this connection it is very interesting to note the series of experiments performed by A. Birch-Hirschfeld and Siegfried Garton upon the implantation of embryonic cells in adult animals, the results of which are published in the *Beiträge zur pathologische Anatomie und zur allgemeine Pathologie*, July, 1899. These authors report the tumorlike formation of cartilaginous tissue in the lungs and liver after the implantation of embryos in these organs in goats, rabbits, and hens. In one experiment of implantation in a hen, they found after a few weeks tissue closely resembling adenoid. Although much was found by simple implantation, yet those experiments were especially rich in findings in which some mechanical irritation was additionally applied. This new cell formation in the majority of the experiments was more or less rapidly encapsulated by the healthy surrounding tissue, and the resorption took place soon, illustrating in a striking manner how foreign to truly healthy tissue neoplastic growth as such really is.

It is very suggestive to note that in two rabbits injected with nearly full-time embryo tissue there were produced merely atrophy and local death of surrounding liver tissue. After injecting four salamanders with pieces of larvæ a rather large piece of cartilage was found on the surface of the liver in one salamander after forty-one days, while in the three others the results were negative.

Notwithstanding the experiments of these authors are inconclusive and not exhaustive, they are decidedly interesting and suggestive. It would be profitable to know the results of similar experiments upon a complete series of injected embryo tissue of definite ages, with, in addition, the employment of different degrees and forms of irritation of the injected organs.

The Raison d'Être of a School of Tropical Medicine.—Dr. Patrick Manson (*British Medical Journal*, October 7th), in the opening address at the London School of Tropical Medicine, said:

"I have said that there is much that is special in tropical medicine. Why should this be? The answer lies at the root of our future studies. To know the cardinal facts of what is special in tropical medicine, to apprehend their bearing, and to be able to give a rational explanation for them is the first, and a most important, step in the science and practice of this department. It has occurred to me, therefore, that a few remarks on one or two aspects of the subject would form a suitable introduction to the course of studies before us.

"The principles of pathology, of diagnosis, and of treatment are the same the world over. That is quite true; but it is equally true that the details of tropical pathology, diagnosis, and treatment, and consequently the application of these principles to practice, differ widely from those obtaining in temperate climates. It is with the science and practice of medicine as with the science and practice of agriculture: success or failure in the application of principles depends in great measure on knowledge of detail. A scientific Aberdeenshire agriculturist may be a successful grower of turnips in Aberdeenshire; but without special training and experience I suspect, notwithstanding all his science, he would be a failure as a coffee planter in Ceylon. Just so with medicine. It is the knowledge of detail, special experience, special training, in addition to scientific apprehension of principles, that enables the tropical agriculturist to succeed in his special climate at his special work; it is equally the knowledge of detail, the special training and the special experience, *plus* a scientific apprehension of principles, that will enable the tropical practitioner to deal successfully with tropical disease. A physician may be competent to deal with diseases in England but sadly incompetent to deal with disease in Africa."

The Institute of Chemistry, Pathology, and Bacteriology, under the direction of Dr. Rudolph A. Witthaus (chemistry), Dr. Farquhar Ferguson and Dr. Joshua M. Van Cott (pathology), and Dr. Ferdinand M. Jeffries (bacteriology), has now been in operation for about a year. It is not for teaching purposes, but for making chemical, pathological, and bacteriological examinations for physicians, also special investigations in medico-legal cases. The institute is at No. 45 East Forty-second Street.

The Southern Surgical and Gynæcological Association.—The next meeting will be held in New Orleans on December 5th, 6th, and 7th, under the presidency of Dr. Joseph Taber Johnson, of Washington. Members of the medical profession are cordially invited to attend.

Original Communications.

THE
BATH TREATMENT IN TYPHOID FEVER.

By H. E. BALLARD, M.D.,
WATERBURY, CONN.

In a recent number of the *New York Medical Journal* the following is quoted from an article on typhoid fever:

"The Brand method of cold baths was not tried in any case in this series. It is very impractical in private practice, and is strenuously objected to by the patient and his relatives, and why should we employ this method when cold sponging accomplishes the same good?"

In only one point would I agree with the writer, and that is the probable objection of the relatives, which, to be sure, is a serious obstacle to overcome and will continue to be such until our physicians can educate and convince the people that this method is harmless and has reduced the mortality of typhoid fever in our largest hospitals more than seven per cent.; and could it be used more extensively in private practice I am sure we should obtain happy results.

So far as the practicability is concerned, all we need is a good trained nurse, a bath tub—which can be obtained from almost any plumber—and a neat, clean room.

In brief, I will describe the method which was used with the patient whose case I have to report.

The patient receives a full bath at about the temperature of the room every three hours when the temperature in the rectum reaches 102.2° F. or over; in the axilla, 101.5° F. or over.

The temperature of the bath will vary from 65° F. to 75° F. In extremely warm weather it may be found necessary to cool the bath by ice. The patient usually remains in the bath fifteen minutes; the duration may be lessened if the patient complains of too much inconvenience, or if his condition indicates removal. Where the temperature is exceedingly high, or rises rapidly, he may remain in the bath as long as twenty minutes. The temperature is often taken from fifteen to twenty minutes after the patient has been removed from the bath to note the reduction; this is not necessary, however.

While in the bath the patient is systematically rubbed by the attendants and the head is frequently bathed with ice water.

The tub is placed by the side of the bed, and parallel to it at the distance of about a yard. The patient's nightdress is removed under the bed covering; his body is covered with a sheet or a large folded napkin wrapped about the loins, and he is lifted from the bed into the bath.

If the patient is asleep, he is not bathed for fifteen or twenty minutes after being aroused. If he is sweating, he is first thoroughly dried. The patient's head and shoulders should be supported by a pad while in the tub. The water should cover the entire body to the neck. Upon entering the bath he receives an ounce of spirits. After eight or ten minutes in the bath shivering usually takes place, and the face and extremities may become slightly cyanotic. While the patient is in the bath his bed is covered with a rubber sheet; over this are placed a blanket and an ordinary sheet. The patient is lifted out and laid upon the bed thus arranged, tucked in the sheets, and covered with a blanket. In the course of fifteen minutes he is thoroughly dried and the nightdress replaced.

About the time reaction is established the patient receives nourishment, and usually falls into a natural sleep.

If there should be marked cardiac asthenia or delayed reaction, the patient should be at once dried and given a little hot sling and a hot-water bag at the feet. Friction to the spine will also give comfort where there is much chilliness after leaving the bath.

For patients in private practice the tub may be filled with water once in twenty-four hours. If at the end of three hours the temperature has not risen above the given point, the patient is not disturbed until another three hours have passed, unless nervous symptoms arise, or there is manifest high temperature present, in which case he may have the bath sooner.

The principal contraindications for the bath are intestinal hæmorrhage and peritonitis.

Whenever there is evident indication for medicinal treatment, it is, of course, used, but in the vast majority of cases there will be no call for a single dose of medicine.

Such, in brief, is the Brand method, with a few exceptions.

The effect of the individual bath upon the nervous and circulatory systems is most beneficial; dicrotism ceases, and a muttering delirium will give place to quiet sleep under the soothing influence of Nature's remedy.

The case I have to report was a well-marked one, and was seen about the sixth day. The Brand method of treatment was immediately begun and continued for forty-eight hours; baths were given at periods varying from three to six hours, the temperature reaching a point of 105.5° F. The drops in the temperature, taken twenty minutes after baths, were from 2.5 degrees to five degrees. At this point the temperature varied from 101° F. to 102° F. for four days, when it began to rise, and reached a point of 103.5° F.

For experimental reasons, I used the cold sponge and wet pack. The greatest reduction we got from this procedure was from one to 2.5 degrees; this plan of treatment was continued for five days, when the temperature again reached 105.5° F., and the patient was again put into the tub, with baths every three hours when necessary. This was continued for four days. After this period the temperature did not rise above 102° F. again, and the patient made an uninterrupted recovery. During the entire course of the disease the patient did not receive a single dose of medicine, except stimulants, while in the bath. His pulse was good throughout; there was little if any tympanites present, and at no time was he delirious. The eruption was very marked all over the body; epistaxis was present at the beginning; the bowels were never troublesome. He received three enemas during the course of the fever. The diet throughout consisted of raw milk; from three pints to two quarts during twenty-four hours. I might say here that my patient asked for his baths, instead of objecting to them. I wish I had more cases in private practice to report. My experience with this method has been confined almost wholly to the hospital, but every little helps, and I hope the day is not far distant when we may see this method used extensively in private practice. The great objection to it arises from the *relatives*, and this our physicians must overcome.

THE
RELATION OF PATHOLOGICAL CONDITIONS
IN THE
ETHMOIDAL REGION AND ASTHMA.
CLINICAL PHASES.*

By CLARENCE C. RICE, M. D.

THE first division of this relationship—namely, its pathology—seems to us to be far the most important, and it easily covers the more difficult portion of the field. To trace an intimate relationship, pathologically, between two disorders at first sight so far apart as ethmoidal disease and the disturbance in the bronchial tubes known as asthma is not an easy task. When we shall have arrived at a thorough understanding of the pathological relation between these two affections it will be comparatively easy to state their clinical expressions, because, although diseases of the ethmoid present numerous objective forms, the symptomatology is not so varied.

We had expected that the description in the preceding paper of the pathological conditions to be found in ethmoidal affections would be most attractive, and we have not been disappointed. More progress has been made during the past five years by this association in the investigation of the various forms of inflammation which attack the ethmoidal region than in any other affection which we have studied. This is true not only because so much attention has been paid to it, as can be seen by consulting the last six volumes of the *Transactions*, but because, also, the paucity of our knowledge regarding ethmoidal disease has afforded a great stimulation to this investigation. We are certainly obtaining a very clear insight into the pathological manifestations here, and shall soon be able to accurately diagnosticate not only the kind of inflammatory process, but also appreciate the stages through which it has passed and predict its future behavior.

I find the division of the subject which has been assigned to me a difficult one to treat. It would not be a hard task to present to you the clinical phases of the different varieties of ethmoidal disease, nor to describe an asthmatic attack, but to present a true picture of the symptoms of both in their relation to each other is not an easy matter. When this subject was first presented to me I reviewed my recent cases of ethmoidal disease—many under treatment at the present time, perhaps numbering as many as twenty-five—and I was disappointed to find that not a single one had ever been complicated by asthma in any form.

I can not positively state that bronchial asthma depending upon nasal disorder is more rarely seen now than five years ago, when so much was written in regard to this relationship, when your attention was so often called to it, and it was so freely discussed by your society, but I certainly have seen far fewer cases during the past two or three years. I should say that without exaggeration I had seen two dozen cases of ethmoidal disease during the past two months, and not one of them had ever had an attack of asthma. But it should be said that in only two of these cases was there any appearance of myxomatous degeneration. There was no pedunculated polyp. So that, in looking for data on which to base the relationship between ethmoidal disease and asthmatic symptoms, I am obliged to refer to cases which have occurred in practice longer ago.

Looking at the subject from the asthmatic point of view, it seemed apparent that where a clinical relationship was to be traced between it and intranasal disease, in the very large majority of cases there was present either marked myxomatous degeneration, so called, or well-developed polypi. If my clinical experience is correct, hay-fever asthma does not bear an intimate relationship to chronic ethmoidal disease except where either sessile or pedunculated polypi are present. We should expect this to be the case, because ethmoidal disease sufficient to produce attacks of asthmatic breathing would probably be of an aggravated chronic type, and the production of asthma would more reasonably occur at any period of the year, and not during the summer months alone; so that where there exists the relation of cause and effect between ethmoidal disease and asthma, the asthma would be likely to be of the *perennial* rather than the *periodic* type. Undoubtedly during an exacerbation of what MacDonald calls "paroxysmal sneezing" (preferring this title to that of hay fever, because the former is a constant symptom), the ethmoidal region is as acutely congested as other portions of the nasal passages, and probably affords its proportion of the causation of reflex bronchial spasm. It can not be proved, also, that swelling in the ethmoidal region does not produce greater irritation than congestion farther forward. But it is all problematical. As I have said, however, chronic ethmoidal cases other than those with polypi or myxomatous degeneration have not been hay-fever cases or periodical asthma patients. So true is this that I have felt at times that chronic ethmoidal disease afforded some degree of immunity to the various reflex phenomena which are associated with very sensitive nostrils. We certainly do not see extreme sensibility in the nasal passages of chronic ethmoidal patients. It is particularly true when suppuration and necrosis are present. I do not find, in looking through our *Transactions* and examining the cases of ethmoidal disease recorded by members of this association, that they frequently allude to asthmatic complications. I am not speaking now of general statements, but of reports of clinical cases. Many of our writers, speaking of the symptomatology of ethmoidal disease, allude to various reflex phenomena, but certainly the frequency of asthma as a symptom does not seem to have impressed them.

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* Read before the American Laryngological Association at its twenty-first annual congress.

This one exception must be made to the statement that ethmoidal diseases are not often associated with periodical asthma, for we all know of frequent instances where we have seen acute attacks of asthma during the hay-fever period in patients whose nostrils were filled with polypi, which is one of the manifestations of ethmoid disease. But patients with this condition of the nasal passages are apt to be affected by asthma at any time of the year, and we think are more subject to such attacks during cold, damp weather than during the summer months. In my cases of hay asthma, or periodic asthma, I have much more frequently found no nasal disorder more grave than the ordinary small degrees of deflection of the sæptum or of exostosis, or moderate turbinated swellings, which we see in the nostrils of nearly all our patients.

Bosworth says, in speaking of the nasal lesions in his asthmatic cases, that they were either nasal polypi, deflections of the sæptum, or hypertrophic rhinitis, and consequently does not mention ethmoidal disease except as manifested by polypi. Although he says that in considering a hundred and fifty cases of ethmoidal disease between ninety and one hundred of them showed marked symptoms of vasomotor disturbance, either in the form of hay fever, asthma, or nasal hydrorrhœa, he does not state what form of ethmoidal disease was present in these cases; but, taking into consideration his first statement, that his cases of asthma were associated with polypi, we suppose that the ethmoidal disease presented itself in this form.

If a close clinical relationship existed between asthma and simple enlargement of the middle turbinated bone, either with or without suppuration and necrosis, it certainly could not have escaped our observation, because ethmoidal disease in nearly all its pathological forms is, I believe, a very common affection. But we do not often find asthma with a simple chronic enlargement of the middle turbinated bone, no matter how great this enlargement may be, so that it would seem necessary for the production of asthmatic breathing that there should be present either the extra irritation of vegetable emanations, the result being so-called nervous asthma, or that, on the other hand, for the production of perennial asthma, it is necessary that the nostrils should be quite thoroughly blocked with polypi and that there should be present the usual profuse catarrhal discharge, not only in the nose but also in the pharynx, larynx, and bronchi. Under such conditions it will, I believe, be exceedingly difficult to prove that asthmatic symptoms are not rather an exhibition of a catarrhal bronchitis than that they are reflex exhibitions of nasal disturbance.

Since asthma is more frequently associated with nasal passages blocked with polypi, we are led to reflect whether the coexistence of asthma and ethmoidal disease is not due largely to mechanical obstruction which necessitates mouth breathing, and to the supervening chronic catarrh of the entire respiratory tract. If this were true, why should we not have a chronic asthmatic condition so long as the nasal passages remain closed? We undoubtedly do have sometimes the production of a chronic bronchitis and emphysema by reason of completely blocked nostrils. The temporary character of asthmatic symptoms associated with nasal obstruction is to be explained in a number of ways. They are more likely to occur during the acute congestive exacerbations which are common to nasal obstruction of all kinds during rapid changes in atmospheric temperature; and, in fact, may be due to any derangement of the circulatory or digestive apparatus. All or any of these may be adequate to furnish just the additional irritation to the chronic process sufficient to develop the asthmatic attack. That it is the amount of nasal obstruction rather than the form has to my mind been emphasized within the last few weeks, because where I found only one case of asthma out of fourteen cases of ethmoiditis in all forms excepting that of myxomatous degeneration, I have, on the other hand, found that two cases out of five patients having polypi have had numerous asthmatic attacks. I do not believe the proportion is usually so large. I may state it as an interesting fact that I have a record of asthmatic symptoms in two out of six cases suffering from what later was found to be adenosarcoma of the nasal passages.

MacDonald says: "There is no manner of doubt that a considerable number of asthmatic patients suffer from intranasal disease, the majority of which are polypi usually associated with suppuration." The question naturally arises, Why should polypi be more frequently associated with asthma than other conditions of the ethmoid unless it is on account of the greater nasal obstruction and the large amount of general catarrh, and the greater degree of interference with the nasal respiratory function? Certainly the conditions are as favorable for producing nervous irritation and vasomotor disturbances where the entire middle turbinated body is so large as to be wedged between the outer wall and the sæptum.

MacDonald makes another remark which I am quite in accord with—namely, that it by no means follows that the nasal disease is the cause of the asthma. He believes that the two regions are simultaneously involved in a chronic inflammatory process which finds its expression in the production of polypus in the nose and a bronchial catarrh and spasm in the lower respiratory tract.

MacDonald also makes this significant remark—significant because I have always believed that it is exceedingly difficult to determine whether asthmatic symptoms should be considered a reflex exhibition of nasal irritation or a symptom of an existing acute bronchitis. He says:

"It must be mentioned that polypus is by no means uncommon in patients of middle or past middle life who suffer from bronchitis, and who are, consequently, said to be asthmatics."

Dr. Roe, in a discussion on this subject some years ago, remarked that in all cases of asthma caused by disease of the nasal passages we should distinguish between those in which the asthma is dependent upon diseased conditions in the nasal passages alone and those in which there is also a diseased condition of the general respiratory passages.

I have already said that the probability of an asthmatic attack occurring with nasal disease seems to be in proportion to the degree of nasal obstruction. The nasal passages are not much obstructed in any form of ethmoidal disease except where myxomatous degeneration is present or polypi are developed. In a chronic ethmoiditis which expresses itself in such enlargement of the middle turbinated bone that it extends from the outer wall to the sæptum, unless there also exists deflection of the sæptum or an enlarged inferior turbinated bone, we seldom have noticed asthmatic symptoms. And here it seems to me that the complicating asthma is due to a combination of these several obstructing elements rather than to the irritation produced by the enlarged middle turbinated alone. My feeling is that irritations emanating in the anterior part of the nostrils in the way of contact between the sæptum and acute enlargement of the inferior turbinated bone are more potent in producing reflex phenomena in the respiratory tract generally than enlargements in the region of the ethmoid.

Speaking of a simple chronic enlargement of the middle turbinated bone without polypi, I recall but two instances in which there were asthmatic symptoms, and both of these occurred at any time during the year. There was a general laryngeal catarrh, and I can not say that there was not a chronic bronchitis in both. MacDonald speaks of this pathological condition as occurring in anæmic women. I have seen this class of patients principally in dispensary practice, and have always felt the condition was largely dependent upon unwholesome living. Nor has my attention been called to any special relation between ethmoidal disease and asthma, even where the middle turbinated extended downward sufficiently to come in contact with the inferior turbinated bone. These conditions of the middle turbinated all represent a very chronic process, and we may more reasonably expect to find such phenomena as asthma during a more active inflammatory condition. For it can not be denied that the greater the sensitiveness of the mucous membrane, as indicated by color, sneezing, spasmodic cough, and lacrymation, the greater will be the opportunity of producing asthmatic attacks. We are able during an attack of asthma to trace the abnormal congestion present not only through the nasal passages, but down into the trachea as far as we can see. I produced an asthmatic attack not long ago by applying chromic acid to the anterior surface of both enlarged middle turbinated bones.

I do not know that it would be of any service to this paper to call your attention for a moment to the classification of ethmoidal disease which Dr. Bosworth has presented to this association. His first division is a myxomatous degeneration without purulent discharge; second, an extracellular myxomatous degeneration with purulent discharge. Both of these, it seems to me, are one and the same process. The third division is a purulent ethmoiditis with nasal polypi, and I do not see why this can not also be considered a later stage of the first and second varieties. The fourth variety, intracellular polypi without pus discharge, is hardly to be dignified as a different kind of inflammatory process, but simply explains that for some reason the pathological process has begun in the internal rather than in the extracellular portion. And the fifth variety, intracellular polypi with pus discharge, differs from the fourth only as to the matter of suppuration.

I believe it to be unwise to complicate the study of inflammatory action in this region by endeavoring to subdivide it into many varieties, or even into many stages of the same variety. I am in full accord with one of the conclusions of Dr. John Mackenzie,* in which he says, speaking of the pathological changes in the ethmoidal region, that they represent successive stages of the same affection, and therefore divisions and subdivisions of ethmoiditis tend to introduce elements of confusion into our pathological conception of the disease.

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* *Transactions of the American Laryngological Association*, 1896, p. 266.

We should not lose sight of the great frequency of the non-suppurating, chronic hypertrophy of the middle turbinated bone. With great enlargements of the middle turbinated bone there is probably always a chronic inflammation of the ethmoid as well; perhaps the process begins in the ethmoid—the whole perhaps the result of frequent acute inflammatory attacks in this region. It is quite possible that in nearly all severe acute coryzas the ethmoidal region is as much affected as other portions of the nasal passages. We speak of this chronic hypertrophy of the middle turbinated because it is so common, but we have not often found it associated with asthma. We see it in patients where the inferior turbinated is atrophied, and where there is present, if not a general atrophic rhinitis, at least a dry mucous surface. I have thought that enlargement of the middle turbinated under these conditions might perhaps reasonably be called a compensatory hypertrophy which to some extent stood in the place of the atrophied inferior turbinated process.

There will always be difficulty in deciding whether in a given case the middle turbinated bone should be considered hypertrophied, for as with the inferior, these bony processes do and should bear a certain relation to the size of the nasal passages. But when the middle turbinated has become so enlarged as to press upon the sæptum and produce nasal obstruction and neuralgic pains, it is safe to assume that the pathological condition is going too far.

When we approach the other forms of ethmoidal clinical disease we encounter great difficulty in any attempt at a classification, and I do not believe that the pathological conditions which are found here always follow any regular sequence, as we might wish in order to thoroughly appreciate the behavior in each and every case. Certainly the presence of polypi is not necessary to the production of suppuration and necrosis, because all the time we have suppurating ethmoiditis without the slightest tendency to the formation of so-called myxomatous tissue. It is true that where polypi do exist there is usually purulent discharge. But this may have existed before the development of the polypi. Simple suppurating ethmoiditis is in my experience much more common than where it occurs with the existence of polypi. In other words, taking into consideration the very large number of cases of ethmoidal disease which we see, those in which myxomatous degeneration has taken place are comparatively rare, and, since this is the form of ethmoidal disease which is usually associated with asthma, it can not be said that the coexistence of ethmoidal disease and asthmatic symptoms is very common.

In the many discussions by this association regarding the relation between intranasal disease and asthma two expressions of opinion have usually been apparent. One, that bronchial contraction was a nervous phenomenon, thoroughly reflex in its character, probably produced by some derangement of the vasomotor system. The other opinion has been that this relationship is not nearly as subtle, but that the complication of the bronchial irritation with the nasal disturbance was rather to be explained along the more usual process of an extension of congestion and inflammation. I think we can safely add that where the nasal passages are largely obstructed and the nasal function is for the time being abrogated, it is quite possible that the evil effects of mouth breathing and the contact of unsuitable air with the bronchial mucous membrane are competent to be additional sources of irritation. It is much safer to give to each one of these causes due credit than to hold the opinion that nasal disease of any variety always exerts its influence in a reflex way.

Where asthma occurs with badly obstructed nostrils, the first irritation to the bronchi may be reflex, or nervous, and transient; but if the nasal obstruction remains for a long time unrelieved, and especially if this nasal obstruction is due to polypi, and there exists suppuration, there will very soon develop a general catarrhal bronchitis, which in itself may produce asthmatic symptoms.

It may be that we as specialists see comparatively few cases of asthma other than the hay-fever variety, and it is quite possible we should find ethmoidal disease in the perennial asthmatic cases which consult the general physician.

I have not endeavored to cite the clinical phases of either asthma or ethmoidal disease, because you are all so familiar with them, and so have, I fear, succeeded only in presenting to you a few desultory observations in regard to the relationship of diseases of the ethmoid to disturbances of the respiratory region.

From what has been said it would seem necessary that where asthmatic symptoms coexist with ethmoidal disease there should be present either nasal passages blocked with polypi, and hence mouth breathing, with a general catarrh, or else very acutely inflamed conditions which would produce a neurotic asthma by vasomotor disturbances.

123 East Nineteenth Street.

The Simple Electric Bath for Rheumatoid Arthritis.—Dr. James Taylor (*Clinical Journal*, October 11th), in a clinical lecture, says that a condition of a very painful nature is rheumatoid arthritis, and very great relief is often afforded in that disease by galvanism applied in the electric bath. This is simply an ordinary bath with one of the poles immersed in the water and the other stroked over the painful parts. So there is nothing mysterious about the electric bath; it can be given with an ordinary bath and an ordinary galvanic current.

There is nothing very new, of course, in this, but it is well to remind the general practitioner of its simplicity of application as well as its efficacy.

THE RELATION OF PATHOLOGICAL CONDITIONS IN THE ETHMOID REGION OF THE NOSE AND ASTHMA.

CLINICAL PHASES.*

By E. FLETCHER INGALS, M. D.,
CHICAGO.

I had no thought of saying anything upon this subject, but Dr. Casselberry this morning said to me that it was necessary for some one to take the place of Dr. Rice on the programme, and I consented to do so.

We are all familiar with the peculiar clinical phases of this disease. I was much interested in the pathological conditions as presented by Dr. Swain, and it seems to me there is much food for thought in his paper, and that it may aid us frequently in the scientific treatment of this affection. I have not so frequently observed as others the connection of this disease with affections of the nose, although I have seen it occasionally. I have seen some cases of asthma relieved promptly by removing polypi, or relieved more slowly, as suggested in the paper, the patient gradually improving for a few days or weeks, and suffering no recurrence of the attacks until the polypi had returned.

As bearing upon the causation, the inhalation of various substances is a well-known factor. I have seen several cases in which the patients were affected with asthma as a result of riding behind a horse or caring for horses. I had one peculiarly unfortunate patient whose business was teaming, and whenever he went near the stables he had an attack of asthma. I have known patients who could ride on a dusty road behind oxen, or who could ride a bicycle, no matter how much dust there might be, but who could not ride behind a horse. So the emanations from various animals cause peculiar cases, which are familiar to all of you. One especially interesting feature I have noticed in two or three patients who have assured me that they had asthma in one lung only. They were all intelligent patients whom I could rely upon as making correct statements, but I did not see them at the time of the asthmatic attack.

A physician, who practised in this city until a few years ago, told me that he had for many years been subject to asthma in almost any part of the city, but that when he came downtown and went to the sixth story of a hotel he experienced complete relief. At that time the buildings were not so high as now.

I recall one patient who suffered terribly from asthma for several years. She lived in a brick house, which was in every way healthful, so far as we could discover. She moved three or four blocks away into another brick house and her asthma disappeared and did not return again for many years.

A still more interesting case than the one just narrated was related to me by one of my colleagues. It was the case of a patient who suffered from asthma when sleeping in one part of the house and not in the other. The beds were the same, also the pillows. One part of the house was built of brick, the other of wood, and the material used in the construction was in some way the cause of the asthma.

An interesting instance of asthma and the indifferent means by which it may be stopped was told me by another of my colleagues, whose daughter had been under my care for obstruction of the nasal passages. She had asthma at certain times of the year, but the relief of the obstruction did not, in her case, cure the asthma, as I have seen it do in other cases. However, it gave her considerable relief. This girl was about fourteen years of age. She seldom had asthma when in the city, but in the country she had frequent attacks. One night this hard-working physician went to his country home to take a little rest. During the night the baby began to cry, the mother began to scold, the girl began to wheeze terribly, and the physician was called upon to get up and straighten matters out. He got some water to quiet the child, but in pushing by the side of the bed the springs were loosened and fell with a great crash, which stopped the baby's crying, the mother's scolding, and so frightened the eldest daughter that the attack of asthma was cured instantly.

In some patients with obstruction of the nares, cocaine, by taking down the swelling, will promptly relieve the asthma. I have been interested also in the relief of asthma by the inhalation of a spray containing cocaine. The question arises whether or not its effects are the same as in the nares, in taking down swelling of the pulmonary tissues; or does it act simply as a stimulant of the vasomotor system? I have known patients to obtain great relief during the asthmatic attacks of hay fever from inhaling the spray of a nostrum which analysis shows contains about three per cent. of cocaine and five per cent. of nitrite of sodium, with other ingredients which seem to be of no consequence.

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* Read before the American Laryngological Association at its twenty-first annual congress.

THE PATHOLOGY AND THERAPY OF CANCER, WITH SPECIAL REFERENCE TO CANCER OF THE STOMACH.

By AUGUSTUS C. BERNAYS,
ST. LOUIS.

(*Concluded from page 657.*)

If a radical operation is judged to be anatomically possible by the operator, the question arises, What is the prognosis *quoad vitam?* In other words, What per cent. of chances has the patient to survive? The question as to the functional disturbance must also be taken into account: the surgeon must consult with the patient about the matter; both of them must consider the proposition, and must answer the question, Is life worth living when certain functions are impaired or lost? In answering this question we must remember that we are dealing with a disease which is usually rapidly fatal, and if it involves certain localities, as, for instance, the throat or the pylorus or the bladder, is often the cause of extreme suffering before it produces death. Some of these cases are also offensive, not only to their surroundings but to themselves, by the intolerable odors which they emit.

My object in this paper is to advocate early and radical interference by operative extirpation, and to combat the tendency of some surgeons to operate only on quite simple cases. I can not admit that the selection of only simple cases for operation is a proper point of view. No doubt the only way to get good statistics is to avoid mortality after one's operations. This desire to avoid mortality always strikes me as a selfish and unprofessional, yes, even a mercenary aim. What are you going to do with the poor fellow who is not operated on because the surgeon fears the possibility of a fatal issue? Has he not a right to demand of you that you give him his only chance? I can not see that we have a right to refuse an operation if the disease can be removed, unless the outcome would be a hopeless functional result or almost certain death at the operation or soon after it.

Knowing that cancer is curable if totally extirpated, and knowing that it is fatal if not totally removed, I have arrived at the following method of dealing with patients who seek aid from me when they are afflicted by a cancer:

1. When the disease is clearly curable and the danger is slight, then I feel it my duty to urge the operation, and insist on an immediate performance of the same, and represent the prospects of a cure as highly probable.

2. When there is considerable involvement of the lymphatics I do not strongly urge the operation, but tell the patient that the chance of a cure, though small, still exists, and, in fact, feel it a duty to make the attempt at a radical extirpation.

3. When the danger of an operation is very great, but where I still think the removal of all involved tissues can be completed—I mean by that where the operation is anatomically thinkable—I present the grave dangers of an immediate death on the operating table, and, though holding out but little hope of a cure and only a probable prolongation of life, I still give enough encouragement to inspire the patient with some expectation of being benefited. As a rule, I find that these patients will decide to have the operation done.

4. Finally, in anatomically impossible cases I do not think it is justifiable to refuse to operate in some fashion if, after knowing the truth as to the hopelessness of the condition, a patient demands that an operation be done. In these cases the psychical effect of even an imperfect partial removal of the offensive cancer sometimes is very beneficial, and puts off for months the inevitable morphine syringe which we are compelled to use during the last weeks.

The time allotted to me will not permit of taking up different forms of cancer in different regions of the body, and I have chosen to present to you the rules that should govern us in only one special region. Let us consider now the management of cancer of the stomach, one of the most frequent and most surely fatal forms of the disease. In the management of gastric cancer two different objects are to be aimed at and two entirely different operations must be borne in mind in treating a case. If we can reasonably hope for a cure, then we at once contemplate the excision of the diseased tissue, because if there is a chance of a cure we have a right to undertake a dangerous operation.

The operation will be an excision or resection of the pylorus or of a larger part of the stomach, or even of the whole stomach. If a cure is not thinkable—*i.e.*, is anatomically impossible—then we must perform an operation which will ameliorate the patient's condition by overcoming the stenosis and by preventing starvation. The operation we will choose for this purpose is one of the forms of gastro-intestinal anastomosis, gastro-jejunostomy and gastro-duodenostomy, the two operations which come into practice. I do not intend to discuss the various technical modifications of these two operations, but will speak of the diagnosis and indications for surgical interference. I regard it as most desirable that from time to time an accounting be rendered to the general practitioner about the results of the treatment of cancer by surgical operations.

I am of the opinion that it is the duty of every physician at the present time to call his patient's attention to the possibility of a radical removal of his disease by an operation. Unfortunately, the diagnosis of cancer of the stomach is not always easily made in the early stages.

We must not wait until a tumor can be felt. We must recommend an operation if there are symptoms of chronic stomach trouble in persons above middle age which point to ulcer or stenosis. An essential pointer is given us if we can detect malnutrition and indigestion accompanied by a perverted chemical action. I refer especially to the absence of hydrochloric and the presence of lactic acid in the gastric juice, together with coexisting signs of retention of contents in the stomach, which indicate pyloric stenosis. We dare not forget that even when the chemical action of the stomach is normal there may be malignant disease.

In a case in which I made the first total excision of the stomach done in America the diagnosis of cancer had been made by the attending physician, although a tumor could not be plainly made out. The patient had been carefully treated for several months on the supposition that he had a gastric ulcer. He had a number of hæmorrhages of almost pure blood. At the operation I found a most extensive tumor along the minor curvature. There was no stenosis, and the pylorus was entirely free from disease. In another case recently operated on the diagnosis of cancer was made by competent physicians without a knowledge of the presence of a tumor, and there was no dilatation of the stomach. At the operation I found an enormously large, far-advanced pyloric cancer, with narrow stenosis. The tumor was adherent to the pancreas, extended up toward the hilum of the liver, and involved about half of the minor curvature. You see that it will not do to wait until a tumor can be palpated, and I regret that I sometimes did not operate early enough because I could not feel a tumor.

The exploratory incision is free from danger, and by its means we can make an early diagnosis and sometimes render good service even if we should find a nonmalignant trouble. The only case in which harm can be done by the exploratory incision is when we make it upon patients too nearly dead from starvation and cachexia.

Persistent, progressive stomach troubles in persons over forty-five years of age are much rarer than is usually accepted by physicians, unless there is a mechanical foundation for them. This foundation will be found in an existing stenosis or ulcer of a cancerous nature in the vast majority of cases. The "sympathetic" stomach troubles due to gallstones, floating kidney, Bright's disease, or some form of constitutional disease having been excluded, nothing remains for us but the diagnosis of gastric cancer.

The trouble which most commonly is confounded with cancer is simple ulcer. But here, as a rule, we have hyperacidity, hyperchlorhydrosis. But we may console ourselves about this matter because even in benign ulcer operative therapy is often the only correct, the only successful course. In this direction in recent years good work has been done by Leube, of Wurzburg. In 1897, at the congress of surgeons, he threw much light on the subject by giving his large experience in one thousand cases of gastric ulcer treated by internal medication. Leube found gastric hæmorrhages in forty-six per cent. of these cases, and still there was only a mortality of four per cent. In a series of five hundred and fifty-six cases, six died of uncontrollable hæmorrhage and six from perforation and peritonitis. In three fourths of all his cases of benign ulcer Leube achieved a complete and permanent cure by means of a dietetic and medical treatment lasting four or five weeks; one and a half per cent. remained unimproved, and two and four tenths per cent. died. Leube thinks that the remaining twenty-one per cent., who had only been improved, would have been cured by a repetition or continuation of the treatment.

Leube, who is not a surgeon, recognizes the following indications for surgical treatment:

1. Repeated hæmorrhages.
2. Severe pain and frequent regular vomiting which persists after medical treatment and dieting.
3. Perforation of an ulcer of the stomach.

We are glad to record the fact that a most competent medical authority recognizes that surgery is indicated even in benign ulcers, and I hope you will agree that surgery must not be appealed to as a last resort. The rank and file of the profession must give up the idea that surgery is a last resort and familiarize themselves with the idea of calling the surgeon early. It is just as easy to prescribe a surgeon for a patient as a dose of morphine.

Billroth said that there must be more surgery in the practice of medicine, and when directly understood this thought is entitled to great weight. I am perfectly willing to be used as a tool by the physician, and I think all normally constituted surgeons will recognize that the physician's calling is more arduous than that of the surgeon, because really the diagnosis of internal diseases postulates a much more scientific education and training than is essential to the surgical specialist.

The most important indication for surgical interference is a suspicion that the case is one of cancer. Even where the suspicion of cancer is not pressing the exploratory operation is indicated. The smaller the cancerous tumor the more chances we will have of a radical cure by its removal. I should consider it a most urgent indication to open the abdomen if a competent physician suspected cancer in a patient whom he had carefully examined and treated for a month or two. Should we find a simple ulcer after opening the abdomen, no harm will have been done, and the case will have been cleared up, and either medical or surgical treatment can be rationally and satisfactorily carried out. When in doubt, operate!

In looking over the statistics of operations in gastric cancer, the important fact is found that we can now furnish the proof that patients from whom we have removed parts of the stomach, yes, even the whole stomach, for cancer, are enabled to digest and assimilate food and keep well nourished.

I will quote the statement made by the great surgeon Kocher in summing up his entire experience in the surgical treatment of cancer of the stomach by resection. Up to the summer of 1898 he had done fifty-seven excisions of cancers of the stomach. There were then twelve of the patients living. Four others had lived in a good state of health over three years. One man was drowned while bathing and in perfect health. One woman died of a cicatricial stenosis, and Professor Langhans, who made the autopsy, could find no trace of a return. One man died after a year's good health, in an insane asylum. One woman died four years after the operation from an unknown cause, but Professor Kocher thinks it possible that she had cancerous glands somewhere in her abdomen. Besides these four cases there are five permanently cured patients. These are in the enjoyment of perfect health. One of them was operated on in 1888, one woman in 1893, one man and one woman in 1895, and one man in 1896. These patients are in excellent condition, well nourished, and contented.

My own experience, though very large, does not show results so good as that of Kocher. My work was done in St. Louis, Missouri, and in private practice to a large extent, and the cases were not in as good condition as those of Kocher, whose work was mostly done in a public hospital, in Bern, on patients who were under good control. Out of twenty-one resections I have only two deaths following immediately upon the operation. All the others survived the operation, and I may say all of them were benefited to some extent, and one lives to-day from whom I removed a pyloric cancer as large as a child's head seven years and a half ago. The man is now sixty years of age and works a forty-acre farm. Thirteen died within one year from a return of the cancer and seven lived from a year and a half to four years. (Of these, two are still in good health.)

From Kocher's statistics, and also from many others, it is clear that the time has come in which we may speak of permanent cures in cases of cancer of the stomach, the most dreadful of all the forms of cancer that we know of, because if left alone in many cases the patient is condemned to actual and hopeless starvation. A decided improvement in the mortality is also noticeable. Krönlein lost three out of his first four operations, and only lost two out of the last twenty. The same can be said of almost every surgeon who has kept up the good work of trying to cure cancer of the stomach in the face of an early appalling mortality. If the general practitioner will send his cases for early operation we may expect a mortality of less than ten per cent. If, however, the extreme skepticism about the success of operations prevails, and the unfortunate patient seeks surgical relief after cachexia has begun, we will have a high mortality and bad results.

I have made it a rule in recent years not to attempt a resection on weak patients, and limit my operation to a relief of the stenosis by a gastro-enterostomy. In patients who are comparatively strong, and in whom there is a localized and movable tumor, the radical operation is indicated.

Since Schlatter, of Zurich, successfully performed his total excision of the stomach, a number of these operations have been done by others, but the results prove that suitable cases for this operation are probably not common.

In conclusion, let me say to you that if as a result of this address some cancer cases shall be driven to seek relief by the only rational means we have to offer—namely, by careful and complete surgical eradication—I shall feel that my effort has been rewarded. Should a few cases be radically cured and twice as many killed by the operation, all will have derived more benefit than if none had been operated on; for those who are killed by the operation are saved from a most horrible slow death. I am perfectly conscious that in thus strongly advocating operation not only in simple but in advanced cases of cancer I shall meet with some adverse criticism. I am consoled by the thought that a valuable victory can not be gained without first having a fight.

NOTES ON

URETHRAL CATHETERISM, CATHETERS, AND BOUGIES.

By J. W. S. GOULEY, M. D.

(*Concluded from page 666.*)

30. *Bougie, candela, cadelula, candeletta, virga cerea* are the names by which this tool has long been known among the Latin nations. The term bougie is one of the many examples of the perversion of words and of the arbitrary meaning given them. Thus Bijiyah, Bougeiah, Bugia, Bougie are among the modern varieties of the name substituted for that of the Roman colony of Saldaa. The Roman town was built upon the declivity of a mountain at the mouth of the Aduse River one hundred and twenty-two miles east of Algiers. The present town lies upon the ruins of the ancient settlement, which was invaded by the Vandals in the fifth century, but which, from the year 708, was under the domination of Arab conquerors, and then followed the fortunes of divers Berber dynasties; owing its name Bijiyah to the Berber tribe of Bedjaia (1068); En-Nacer, the founder of the new town, having tried in vain to give it his name. The place was named Bugia,* probably by the Spanish, who took it in 1509, and retained possession until 1555. It afterward passed into the dominion of the Dey of Algiers, and, in 1833, was occupied by the French, who call it Bougie. For many centuries it had been a thriving seaport, at one time a safe harbor for Algerine pirates (hence its invasion by the Spaniards) and a trading station for metals, oil, and wax, brought from the interior by the Kabyles. The wax and candles of the town of Bougie were much valued in the markets of southern Europe,† particu-

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* The writer's attention was directed by a client to the Italian word *bugia*, which means a lie, with the suggestion that it might be allied to the medical term, but he has since ascertained that *bugia*, lie, has nothing whatever to do with the town of Bugia, but is related to the Provençal *bauza*, deceit, the verb being *bauzar*; to the old French *boiser*, to cheat, *boise*, fraud; and this to the old German *bōsa*, badness, roguery.

† The Venetians, who were the first to make known wax candles in Europe, had learned their use from the Arabs.

larly in those of France. The populace and traders, ever prone to abbreviate regardless of propriety, substituted for Bougie-wax candles, wax bougies, then suppressing the wax and naming all kinds of candles bougies, and finally giving the name of bougies to all cylindrical urethral instruments, whether of wax or of other substances. The word has been so long used in medical language that it would now be unwise to substitute any new name for bougie, inexpressive as it is of the uses for which it is intended. This term bougie will therefore continue to be employed to signify an instrument for exploring or for dilating some of the excretory ducts of the human body until the right term is coined by properly constituted authority.

31. The time of the invention of urethral bougies can scarcely be fixed with certainty. The following are the only sources of information which have been accessible to the writer. Andrea Lacuna (1551), a Spanish physician, thought that bougies were invented by Philippe, an itinerant Portuguese charlatan, who communicated to him his mode of producing them. They were made of wax, with a central longitudinal wick, and were then introduced as far as the bladder for the diagnosis and treatment of "caruncles or carnosities." The spot in the bougie where "a caruncle or a carnosity" was supposed to have left an impression was further excavated, or the calibre of the bougie was lessened by pressure and rotation between two hard bodies, and this space filled with an unguent in which entered acetate of copper, yellow sulphide of mercury, vitriol, alum, vinegar, litharge, etc. The bougie, thus prepared, was introduced into the urethra so that the medicated part acted upon the "caruncle." Amatus Lusitanus (1554), a Portuguese physician, said it was he who, during his stay at Lisbon, had taught Philippe the manufacture and use of these bougies, and that he, Amatus, was indebted to Professor Aldereto, a physician, of Salamanca, for his knowledge of the bougies. Alphonso Ferri, of Naples, asserted, in a work printed in 1553, that he had used the unguent and bougies as early as 1548. However, the use of this unguent was described in the sixth century by Alexander of Tralles. Ferri had used for urethral exploration stems of malva, parsley, and fennel; also flexible leaden cylinders, which he sometimes introduced as far as the bladder. These leaden cylinders were by others rubbed with mercury, which rendered them so brittle that the process was soon abandoned. Petronius, Paré, and many other physicians of the time made use of the unguent, more or less modified in its component elements, and of the several bougies, medicating them with the object of destroying the supposed "caruncles and carnosities." Giannatus, an Italian charlatan, treated Charles IX for pretended "carnosities," employing bougies medicated with an "escharotic ointment." In speaking of tin bougies, Jourdan said that they were generally cylindrical, but that Francisco Diaz suggested for them a triangular form and pointed (conical or wedge-shaped(?)), in order that they might more easily pass beyond the "carnosities." Here, then, is an early link in the evolution of conical bougies. Soon after the time of Diaz whalebone bougies were used, but as soon given up. Daran * revived in France the use of medicated bougies and published many "cures," but some of his contemporaries, better instructed, soon showed that his good results were due to the mechanical dilatation effected by the bougies rather than to any medicinal action of the substances which entered into their composition.† It was not until the time of Thedn and Bernard (in the latter part of the eighteenth century) that elastic bougies were made for the purpose of dilating strictures, and these bougies have since been undergoing improvement in construction and form from the hollow cylinder to the solid, from the straight to the elbowed, and from the conical to the olive-tipped.

32. Whalebone bougies were used in France early in this century and also in the United States. Dr. H. G. Jameson (*Medical Recorder*, 1827) spoke well of the utility of whalebone bougies of "the size of a small knitting needle" in the treatment of urethral strictures. Whalebone bougies are of two kinds—those with olivary point and elbowed, about one millimetre in diameter, to serve as conductors for larger instruments, and those for the dilatation of narrow strictures. The second, also elbowed and olive-pointed, are not over one millimetre in diameter for the first three inches, thence increasing gradually in diameter, so that at five inches they are equal to Nos. 2, 3, 4, 5, 6, and 7, English scale, the set comprising six bougies, as indicated by these numbers. All whalebone bougies require to be thinly coated with carbolized vaseline and preserved in metal tubes; otherwise they become dry and brittle and are soon destroyed by parasites. It does not seem necessary to do more than make bare mention of some of the many kinds of bougies used from the time of Bernard—as those made of catgut, recommended by Dr. Dease, of Dublin, in the last century; of gentian root, of slippery-elm bark, of prepared sponge (Aliqué); of the œdalic bougies of Lioult (1828); of the air dilators of Ducamp and Arnott; of the elbowed bougies of Benjamin Bell (1793) and of Whateley (1806); of Ducamp's wax-tipped bougies for taking impressions of strictures, and of Bigelow's gutta-percha bougies for the same purpose; of Olioli's urethral stenosiometer; of the metallic "ball probes" of Sir Charles Bell for the exploration of strictures; of Leroy d'Étiolles's soft *bou-*

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* In an assembly of ladies and gentlemen, accidental mention was made of Daran, whose name was constantly before the people, for he did not hide his light under a bushel. One of the ladies, hearing it, asked, "*Quel est donc ce Monsieur Daran?*" A wit quickly replied, "*C'est un homme qui prend nos vessies pour des lanternes.*"

† *Observations chirurgicales sur les maladies de l'urèthre traitées suivant une nouvelle méthode.* Par Jacques Daran. Nouvelle édition, 1748.

gies-à-boule, and of the metallic bulbous bougies of Otis.

33. Of the divers sorts of urethral and urethro-vesical catheterism, only the exploring, dilating, evacuating, and irrigating need be examined on this occasion. The importance of the subject warrants the repetition that catheterism demands the utmost deliberation and gentleness, the greatest steadiness and lightness of digits, the clearest conception of the anatomy of the parts, and the most precise concert of action of mind, eye, and hand. The honeyed utterance of Civiale—*doucement et lentement*, gently and slowly—in the performance of catheterism, whenever borne in mind, has often served to prevent serious injury, which rough manipulation and precipitate action so frequently inflict upon the urethral canal. Catheterism for urethral or urethro-vesical exploration, as well as for dilatation and evacuation, is ordinarily performed during dorsal decubitus of the patient, because the standing posture favors syncope, and because recumbency of the patient is much more convenient to the operator, seated, as he is, by the sufferer's left side for urethral and by his right for vesical exploration.

Urethral exploration for the detection of a foreign body or of a suspected calculus impacted in the canal is made with a metallic instrument, serving at the same time for the extraction of either; the most commonly used being the slender alligator-jawed forceps, and the urethral lithotrite (of which there are several kinds) in the case of a calculus too large to be removed in its entirety. In the case of oblong foreign bodies in the bladder the explorer should also be the extractor. The writer once removed entire a cylindrically fashioned piece of raw potato nearly four inches long, which the patient had introduced into his urethra, and which was swallowed by the bladder. The extraction was accomplished by means of a rectangular metallic catheter with forceps extremity. Lithotrites generally answer the purpose of searching for and removing pieces of soft catheters from the bladder, while special tools are employed in the extraction of parts of metallic catheters and other hard, oblong, or cylindrical objects.

Urethral exploration of the prostate is made with the writer's cysto-pylometer or with Mercier's rectangular solid sound, which will do also for exploration of the bladder walls; while the detection of stone may be achieved with Mercier's rectangular hollow searcher or with Langlebert's lithophone.

Exploration of the urethra for stricture is best made with the soft, flexible, acorn-tipped web bougie, the penis being held between the middle and ring fingers, palm up, while the thumb and index retract the prepuce and part the lips of the meatus. A previously lubricated bougie, whose acorn-shaped tip is as large as the urethral orifice will admit without being overstretched, is then slowly inserted and gently pushed onward until it reaches an impediment. The length of the bougie being known, measurement of the distal or extra-urethral part from the meatus will give approximately the situation of the stricture. For practical purposes it is essential only to know if the stricture be in the phallic, scrotal, or perineal region of the urethra. A smaller bougie, which just passes the stricture, indicates its calibre, and, by leaving it in that position for a few seconds and slowly extracting it until the base of the acorn reaches the vesical end of the obstruction, the length of the stricture is easily ascertained by proper mensuration of the shaft of the instrument that is out of the canal. A second or a third stricture may be diagnosticated by means of this or perhaps of smaller acorn-tipped bougies. Metallic bulbous bougies can not be used with the same delicacy and precision as the soft instruments, and their rigidity is often a source of no little danger.

34. Dilating catheterism, whose purpose is the restoration of the urethra's normal calibre, is ordinarily effected, in the case of narrow strictures free from complications, by the momentary insertion of flexible web bougies every second or third day, increasing the sizes until No. 10 or 12 of the English scale shall have been reached. After this, conical steel sounds may be used, not oftener, however, than once a week, and seldom exceeding No. 15, English scale. Those patients who live far away from the reach of their surgeon should not be intrusted to pass steel sounds, as they are not likely to acquire the needed skill, and are almost certain to do serious mischief to their urethræ. They should therefore be taught the use of very soft, olive-tipped web bougies not larger in the shaft than No. 13.

To refrain from making a false route or otherwise injuring the parts during the passage of a metallic sound or catheter in the urethra, the incurvations of this canal should be kept constantly in mind, the first point of danger being at the peno-scrotal and the second at the bulbo-membranous junction; and to guard against these disastrous accidents the operator should direct the extremity of the sound or catheter downward toward the perinæum (after the manner of the ancient *tour de maître*), so as to prevent impingement at the first-named point of danger. Having passed this point, he makes with the handle of the sound a slow and deliberate sweep upward and to the left, which brings its extremity into the proper position; then very slowly depressing the handle between the patient's thighs at the same moment that the end of the sound is tilted up as it arrives at the second point of danger—*i. e.*, the bulbo-membranous junction—it slips easily into the bladder.

The catheterism of narrow, eccentric, tortuous urethral strictures, especially those complicated by false routes and distressing retention of urine, is one of the most delicate, difficult, and often perplexing of surgical procedures, requiring for its safe and successful execution mature experience, skill of the highest order, slow and gentle manipulation, imperturbable coolness, exhaustless patience, and unrelaxing persistence. The first step in this kind of catheterism is to lubricate the urethra by filling it with warm olive oil or with petrolatum; the next is to pass an elbowed capillary whalebone bougie with which to explore the region of the stricture until its lumen is found, when the bougie will enter the narrowed canal; but even after it has passed this point its extremity often glides into the mouth of an enlarged lacuna or of one of the ejaculatory ducts, from which it must be disengaged, slightly rotated, and pushed onward, when at length it will reach the bladder. This process sometimes occupies half an hour or even longer. Dilatation may then be made with a small tunneled conical steel sound (the whalebone bougie being the conductor for the sound), as described by the writer in earlier papers. The success of these steps generally insures the good effects of subsequent dilating catheterism, and is almost always prophylactic of cutting operations. When it happens that dilatation can not be carried beyond No. 2 or 3, then a catheter No. 2 or 3 is introduced and retained twenty-four or even forty-eight hours, during which time the urine constantly trickles away, to the relief of the bladder, and this "continuous dilatation" facilitates the passage of larger bougies, so that in a few days dilating catheterism in higher numbers is performed with comparative ease. The foregoing is assuredly the most optimistic view of catheterism in difficult cases. How often this catheterism is disappointing and unsuccessful, particularly when a false route is to be eluded, those who have had much experience will testify. The operators who "always succeed" are to be congratulated if they always succeed! When, after repeated patient trials by an expert, the bladder can not be entered, the only resort is, of course, external perineal division of the stricture after capillary hypogastric puncture of the bladder and aspiration of the urine to afford temporary relief of the distended bladder in case of great urgency.

Unduly frequent and excessive dilating catheterism is undesirable, injudicious, irrational, and harmful. The consequent bruising of the mucous membrane excites a subacute urethritis whose exudate in the underlying connective tissue undergoes sclerous degeneration, ending in loss of suppleness and permanent contracture of the whole canal.

35. Evacuating catheterism is used to rid the bladder of calculous detritus after lithotripsy; to aspirate clots of blood or slimy urine from the bladder; to relieve retention of urine due to urethral stricture or to prostatic obstruction, and to draw off urine daily in cases of its stagnation from urethro-vesical or urethral impediment.

For aspiration of calculous detritus after lithotripsy and of blood clots from profuse cysthæmorrhagia, as well as excessively thick, purulent, slimy urine, the large metallic catheters adapted to Bigelow's apparatus answer the purpose admirably. In their introduction the same care and deliberation should be observed as in the passage of other metallic catheters.

In urethro-vesical catheterism for retention of urine due to a stricture, it is generally necessary to begin by dilating the stricture rapidly, even to the extent of its divulsion, until a No. 4 or 5 tunneled sound, with the aid of its whalebone conductor, can be introduced; then to substitute a tunneled metallic catheter of the same size. When, however, it is possible to carry dilatation to higher numbers, say 9 or 10, then a No. 8 web catheter is inserted and some of the urine allowed to escape slowly. Under no circumstances should a distended bladder be emptied precipitately, for reasons that are too well known to require rehearsal. The same and even greater precautions are to be taken in the case of urinary retention due to prostatic obstruction. Physicians have often asked, What is the best catheter for such cases? The answer to the query has invariably been that any one catheter can not answer in all cases. They should be provided with catheters for the different forms of obstruction. For example, in ordinary cases of supramontanal enlargement of the prostate, the curved silk-web catheter is sufficient, and also the velvet-eyed India-rubber catheter; but in cases of intra-urethral prostatic growths, of unilateral enlargement, of unequal enlargement of both lobes, and of urethro-vesical barriers, Mercier's elbowed catheter is required, and sometimes the crutched catheter; while in cases of enlargement of the superior isthmus with supramontanal increase, causing great depression of the prostatic sinus, Mercier's double-elbowed catheter is the most useful.

36. Respecting the size of the catheters, the question, Should they be small or large? is very commonly asked. The answer is that they should be neither large nor small, but adapted to the particular urethra to be catheterized. A catheter of full size for a urethra under the average is too small for a urethra of extraordinary large calibre. A No. 14 (English) is small for the latter, and entirely too large for the former, to which a No. 7 (English) is likely to be much more suitable. These, however, are extreme cases. The most convenient size to the physician and to the patient, one that strikes a fair average, is No. 9 (English). It is rare to find urethræ that will not admit a No. 9, particularly in cases of stagnation of urine from prostatic obstruction, stricture being excluded. Many patients who are obliged to catheterize themselves labor under the delusion that small catheters are safest and give least pain. To the use of small catheters may be ascribed the majority of prostatic false routes and the frequent attacks of urethritis and orchitis from which auto-catheterists suffer. The best-sized and safest catheter for each individual is the catheter that moderately fills and therefore does not

stretch the urethra. Such an instrument gives less pain than the too large or the too small catheter.

37. The India-rubber "velvet-eyed" catheter is ordinarily the safest for general use by the inexperienced and for auto-catheterism, but its long-continued use upon or by the same patient is not advisable. The security felt by the patient is often a source of danger, for he is soon heedless of the precautions advised by the physician and suffers much in consequence. How much more frequently the physician is called upon to remove from the bladder fragments of or entire India-rubber catheters than of other firmer instruments! But, aside from these accidents, the urethra is often greatly irritated by the rubber catheter, not on account of this material itself, but of the carelessness, boldness, and undue frequency of its use, which come of its easy introduction. Painstaking, prudent, and intelligent patients soon acquire sufficient skill in the use of any of the several pliable catheters and learn to keep them in good order.

38. It frequently happens that the physician is called upon to relieve patients from retention of urine when ordinary catheterism is impossible by reason of false passages in the prostatic region. In such cases the common practice has been to make a suprapubic puncture with an ordinary trocar and insert a catheter or a silver tube, to be opened as often as necessary for urination. Thirty years ago capillary puncture with aspiration was introduced to the profession by Dieulafoy, and this novelty soon became the fashion. Many successful cases were reported, and capillary puncture with pneumatic aspiration was to be *the* operation in retention of urine. Although at first no reference was made to accidents, in a few years the vogue of the process was on the wane; now it is employed with more discrimination, and only to relieve extreme distention once or twice, and not ten, twenty, or thirty consecutive times in the same case. Capillary puncture with pneumatic aspiration is an excellent resource in medicine and surgery; it can not be too highly praised, but its abuse should be loudly decried.

39. No kind of puncture of the bladder ever can remove a false route, and capillary puncture is not so safe a process as was at first believed. The consequences of the escape of a few drops of urine in the prævesical connective tissue have been so disastrous in a number of cases as to deter cautious physicians from employing this method of relief except under circumstances of the greatest urgency; but there is an equally forcible objection to its general employment—to wit, a simple, safe, and efficient procedure has existed for the past fifty years. Why it has not been more frequently employed is not apparent, but it is nevertheless valuable. In the year 1850 Dr. Mercier published in the *Union médicale* an account of his invaginated catheter for use in cases of prostatic false routes. Descriptions and drawings of the instruments have appeared in different books and periodicals, but little heed seems to have been otherwise taken of this precious device. It may be fairly stated that in ninety-five per cent. of cases of prostatic false routes the invaginated catheter can be successfully applied. The instrument as now made consists of two catheters—one metallic, the other non-metallic. The first or female part is a thin-walled No. 10 (English) silver catheter, eleven inches long, very slightly curved, and having in its concavity, about half an inch from the point, an oval eye five eighths of an inch in length and three sixteenths in breadth. From the vesical extremity of the eye is an inclined plane, which is lost in the floor of the opening at the distance of a quarter of an inch, serving to tilt up the point of the male part. This male part is a flexible but firm "gum" catheter (No. 7, English), eighteen inches long, fitting loosely in the lumen of the female part, and having a single eye an eighth of an inch from its point. The way to use the invaginated catheter is to introduce the male into the female part as far as the eye of the latter, then to pass the instrument as far as the obstacle and engage the point of the metallic part in the false route, and finally project the male part, which will override the false route thus blocked and enter the bladder. If no urine should flow, it would be owing to closure of the eye of the male part by a blood clot, which might be forced out by the injection of a little water through the male catheter. The female part can then be withdrawn and the male left in as long as may be required; this is the reason for the increased length of the male part.

40. When a patient has long used the catheter for relief of his bladder, and the urethra has suffered from the consequent irritation followed by urethritis with spasmodic contracture, which renders catheterism painful and difficult, it becomes necessary for the surgeon to irrigate the canal at least once each day, and to dilate it with steel sounds every three or four days for two or three weeks, when daily evacuating catheterism is again easy. This process should be repeated every three months or thereabout. An evil which should be avoided is the too frequent use of the evacuating catheter by the patient, who, if not cautioned, passes the instrument every hour or two if he happen to suffer much from vesical spasm. This may be obviated by the administration of the one two-hundredth of a grain of hyoscyamine three, or at most four, times daily, but for not more than four days, as the drug can not generally be tolerated longer, and its use should not be resumed until three or four days thereafter. The effect of the hyoscyamine is to abolish vesical spasm in the majority of cases. It is rarely necessary for the well-trained patient to catheterize himself more than six times in the twenty-four hours in case of prostatic obstruction to spontaneous urination.

41. The frequent evacuative catheterism necessitated by prostatic obstruction causes a subacute ure-

thritis, which demands daily irrigation of the urethra, whose mucous membrane sometimes becomes so œdematous as to render catheterism difficult and even dangerous. In such cases, the careful introduction of flexible web bougies, or of steel sounds, of increasing size to No. 15 (English), every second or third day for two or three weeks, relieves the sodden mucous membrane, restores the suppleness of the canal, and facilitates the evacuative catheterism. Another ill effect of this indispensably frequent catheterism is acute orchitis, due generally to the use of unclean and fissured instruments. This occurs, in some patients, as often as every three or four months, first on one side, then on the other, seldom on both sides at the same time. After several attacks, the orchitis becomes chronic, and sometimes small purulent foci are formed in the substance of the testes. These abscesses generally open spontaneously and are rarely incised, the patients objecting until they are taught by experience that early incision is wise and proper. Finally, the spermatic canals are occluded, and the genetic function is at an end.

42. In catheterism for vesical irrigation and dilatation, rigid, especially metallic, catheters should not be employed. The best and safest are those that easily enter the bladder without causing undue irritation, such as the several forms of web catheters, and the India-rubber catheter without eye, but open at the well-rounded, smooth vesical end. The double-current catheter should be abolished, if only for the reason that it does not accomplish the desired object of allowing enough of the injected material to accumulate for proper irrigation and for even slightly distending the viscus, since the stream enters through one eye of the instrument and immediately passes out of the other, and not more than a square inch of the mucous membrane is affected by the fluid. Should it be said that the outlet can be closed for a moment to regulate distention, the reply would be that this closure converts it into a single-current catheter, by which irrigation and distention are attained. Why not, then, use the single-current catheter, which is simpler, less bulky, and not so costly? The double-current catheter is, to say the least, an unnecessary tool. The substance injected is, of course, that which is indicated for the morbid state to be treated. The injector may be the fountain or the pear-shaped India-rubber bag. Irrigations for cleansing the bladder may be made by the patient with the aid of the fountain syringe, but when needed for gradual dilatation of the contractured bladder these irrigations should be made by the surgeon, who will generally find the India-rubber pear the better instrument, for with it he can, by pressure with the hand, quickly determine the degree of justifiable dilatation.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 4th inst., Dr. William Porter presented a paper for discussion, entitled Abscess of the Lung.

BRAIN FATIGUE.

By R. ELLIS, A. B., M. D.,
UTICA, N. Y.

While reading the diary of Sir Walter Scott recently, I was specially interested in a passage describing one of his nervous conditions, since a patient presented himself at my office at this time, complaining of similar sensations, which he described with considerable difficulty.

As I believe such a mental condition is seldom if ever described in medical literature, I will first quote from the diary and then describe the sensations of my patient, which I think agree with the description given by Scott.

All know the tremendous tension that Scott was under; all know the result of this tension was the earning of six hundred thousand dollars—the amount of his indebtedness. A few quotations will enable us to appreciate the one ruling thought of Scott's brain—a thought that must have kept his brain "congested" for several years.

"I will die a free man if hard work will do it—

"The best o't—the worst o't
Is only just to die,

and die I think I shall, though I am not such a coward as *mortem conscire me ipso*, but I gin to grow weary of the sun, and when the plant no longer receives nourishment from light and air, there is a speedy prospect of its withering."

"I have been stupefied all day, and could not gather my spirits—this is nonsense and contrary to my system, which is of the Stoic school and pretty well maintained. . . . Once drawn upon the beach, I would soon break up, so I continue my exercise."

"The point in this world is to do what we ought, and bear what we must."

"My nerves weak—the beauty of the evening—the sighing of the summer breeze, brings the tears, but I must harden myself—it is not the law we live on."

"If I were capable, in a moment of weakness, of doing anything short of what my honor demanded, I would die the death of a poisoned rat in a hole, out of a mere sense of my own degradation."

Appreciating the fine calibre of the man, as well as the tension he was under, from these quotations, we are prepared for the following nervous condition:

"A kind of a cloud of stupidity hangs about me as if all were unreal that men seem to be doing and talking about."

"A day of hard work, being, I think, eight pages before nine. I can not, I am sure, tell if this is worth marking down, that yesterday at dinner time, I was strangely haunted by what I call the sense of preexistence, *videlicet:* a confused idea that nothing passed was said for the first time; that the same topics had been discussed, and the same persons had stated the same opinions on the same subjects. It is true there might have been some ground for recollections, considering that three at least of the company were old friends, but the sensation was so strong as to resemble what is called a mirage in the desert, or a calenture on board ship, when lakes are seen in the desert, and silvan landscape in the sea. It was very distressing yesterday, and brought to my mind the fancies of Bishop Berkeley about an ideal world.

"There was a vile sense of want of reality in all I did and said. It made me gloomy and out of spirits, though I flatter myself it was not observed.

"The bodily feeling which most resembles this unpleasing hallucination is the giddy state which follows profuse bleeding, when one feels as if walking on feather beds and could not find a secure footing. I think the stomach has something to do with it. I drank several glasses of wine, but this only augmented the disorder. I did not find the *in vino veritas* of the philosophers. Something of this insane feeling remains to-day, but a trifle only."

My patient is a sensitive man of sixty, who has been carrying a load for a good many years—a sensitive man who all his life has been struggling up the hills of life which he expected to fly to in the dreams of youthful enthusiasm; he is a man of fine calibre, and should be a man of wealth, for an oversensitive man of fine calibre is not at his best but at his worst when the day's life means a day's struggle for mere existence.

Such a struggle is best maintained by a man of really coarse calibre who is skilled at acting the part of a gentleman, and knows how by polished manners to force from environment the best possible.

My patient was seriously handicapped by his sensitive temperament, so he carried his load under great tension, and silently endured the "whips and scorns of time."

He tells me that six months before consulting me, after a trying week, he noticed a dizziness and an uncomfortable sensation in the head, which increased for several days, until one morning, while writing a letter, he found he could not remember the name of his little town, though he had lived there some long time. Being an intelligent man, he readily diagnosticated this symptom as brain fatigue, and, resting from his work a few days, found complete relief.

Such an experience, however, aroused his curiosity, and made him an observing student of his mental condition.

Six months after this brain fatigue, the tension of climbing up the hills of life with difficulty became severe and interesting symptoms followed—a feeling of mental weariness after a few hours of brain work; then a tendency to stagger while walking, which seemed to increase if noticed carefully. Though he knew he was "all right," he felt he was "almost all wrong"; everything said and done by others seemed "queer"; conversation was exceedingly disagreeable and flat, especially since those conversed with seemed to be in a "haze."

No one noticed the condition of my patient, especially since he knew he was all right in the eyes of his friends, because he knew his symptoms were purely subjective, and not observed by his friends. He acted so naturally that the only flaw his friends could find in him was an "unnatural seriousness" which he avoided "by trying hard to be cheerful."

He knew his symptoms were due to "nervousness and mental fatigue," so he tried to control as well as to study himself.

He tells me his life during this time was and always has been regular in every way; that he ate and slept well and was well in every way save for these symptoms. After he had been under a severe mental strain for a few weeks, his symptoms, which had decreased in severity, increased until he became a little alarmed, as "everything seemed so queer and hazy."

He would think of or hear of some trifling incident, and at once his mind would say, "I've heard that before," and then would follow a mental hunt for the time and place; this "hunt" would last possibly fifteen minutes and end with little satisfaction, only to be followed by "another hunt." This seeking for the "previous time and place" seemed to give a mental sensation "vibrating" in character, and not as disagreeable as unsatisfactory. This mental condition would last possibly three or four hours in its intensity, and then slowly pass away. During this time, satisfactory mental application was not possible, so the patient, realizing rest was his best medicine, decided he would first consult me and then rest in the mountains.

I found him a bright, active gentleman in literary life, with too much work amid too many cares and responsibilities—a man of too fine a calibre for some of the rough-and-tumble contests he had been engaged in. He gave a good, clean history in every respect, and correctly diagnosticated his trouble as "brain fatigue," due to too much mental work and worry.

A vacation of a few weeks completely restored his nervous tone and he returned well. I believe his mental condition to have been as Scott's was—a condition produced by too much work and worry.

I have written this brief paper because I do not remember to have read anywhere of that mental condition which Scott calls "a strange sense of preexistence."

THE TREATMENT OF EPIDIDYMITIS.

By ROBERT C. KENNER, A. M., M. D.,
LOUISVILLE, KY.

If we would always have our patients suffering with gonorrhœa wear a suspensory bandage from the first appearance of the disease, it is highly probable that the supervention of epididymitis would be a much less common circumstance.

A suspensory bandage may or may not be of value to the patient. If we simply order these patients to buy a suspensory bandage and wear it, we shall fail altogether to get any good from it. We should get a suspensory, and I am generally indifferent to the kind used, and see that it actually supports the testes. If this is not done the suspensory is not capable of rendering our patient any good service. If, when the suspensory is applied, we find the testes not supported, we should put some cotton or a handkerchief there to hold the testes up. We should also tell the patient to look after this matter at night, and, if in the recumbent posture the testes are not supported, to have a pillow so placed as to afford the support desired.

The treatment of epididymitis can best be considered under two heads: First, measures applicable in the stage of acute inflammation. Second, remedies which hasten the removal of the inflammatory deposit.

Some cases of epididymitis are essentially mild in character and will call for no other remedial measures than having our patient go to bed and have the testes well supported. In these cases, however, the diet should be light, and the recumbent posture must be maintained so far as possible.

The pain that occurs in these cases of epididymitis that do not assume a mild form, however, is something equaled in few of the minor affections.

As a means of relieving the pain I have relied to the largest extent on the application of tobacco leaves wet in water as hot as can be borne and applied directly to the scrotum. Rarely I have found cases where tobacco caused nausea, and in one patient the tobacco irritated the skin. When tobacco does not have a happy effect I trust to a flaxseed-meal poultice, to which laudanum has been added in liberal quantities.

This has not failed to act well, but it is not so efficacious in the relief of pain as the tobacco.

I have the leaves of tobacco applied fresh when they get cold. My experience with cold applications has been unsatisfactory, and it is common to find patients objecting to their employment. A study of my cases, and those of others, has not convinced me that cold applications are capable of rendering us valuable service.

Frequently we shall find these patients with considerable fever. In these cases we may safely resort to any coal-tar antipyretic. They often act in a most happy manner.

Other indications for treatment may arise which will have to be met on general principles not necessary to be defined here.

In carrying out the *second* indication—that of administering remedies which will hasten resolution—we find that one remedy has been recommended as almost a specific—that drug is pulsatilla. In quite an extensive experience, I have not found this agent capable either of cutting short the period of acute inflammation or of exerting any appreciable effect in removing the inflammatory products.

Strapping has, beyond any doubt, brought me results which were satisfactory; but patients generally dislike this means, and it is far from being a superior measure.

The painting of the scrotum with a solution of nitrate of silver has brought about good results in a limited number of cases, yet this measure is not now relied upon extensively by the profession.

I have obtained better results from the employment of iodine vasogen than by any other agent which I have yet employed. This agent I have rubbed into the scrotum every three or four hours. It has hastened resolution and brought about a reduction of the swelling more speedily than any other means at my command. My patients treated with this agent have recovered in an average of five days. I have notes of fifteen cases treated with it.

Its use was begun in these cases after the subsidence of the symptoms of acute inflammation, and when the swelling was at its maximum. I have not employed the remedy in any case of chronic testicular induration.

The agent has not proved an irritant, as is frequently the case when tincture of iodine is employed. In these cases no internal remedy has been exhibited except when the patient had some coexisting disease, or where great pain, fever, or some other symptom attained to such importance as to make that course advisable.

Time and consideration for space will permit me to give even in outline only a few of these fifteen tabulated cases:

Mr.——, aged twenty-three years. This young man, a medical student, sent for me on March 1st. I found him in the throes of a most painful epididymitis. I used the tobacco leaves wet in water as hot as he could bear, and his testes were held up by a properly adjusted suspensory. He was kept in bed and had a low diet. At my visit on the third day the tenderness and pain were nearly gone. I now had him leave off the tobacco leaves and began with the employment of iodine vasogen. This was rubbed on every three hours. It produced no discomfort, and the reduction of the swelling was manifest eighteen hours later, and proceeded without interruption to complete resolution five days later.

Mr.——, aged thirty years. This patient had treated the present attack of gonorrhœa with contempt. He was now seized with epididymitis. I saw him after he had considerable swelling and he was now suffering intensely. Tobacco acted as an irritant in this case, so I resorted to flaxseed poultices with laudanum. They were kept warm—in fact, hot as the patient could bear. The pain subsided, and he was treated as was the other patient, with iodine vasogen, rubbed in every three hours. He got along well, and was discharged four days after the commencement of the iodine vasogen systematically.

Mr. ——, aged twenty-nine years. This patient was seen after the period of acute inflammation had subsided. The right testicle was swollen to a larger size than I had ever seen in a case before. I enjoined low diet, rest in bed, support of the testicles, and systematic employment of iodine vasogen. He got along well, resolution having been attained seven days from commencement of the treatment.

Therapeutical Notes.

Ichthyol in Renal Tuberculosis.—Goldberg (*Berliner klinische Wochenschrift; Journal of the American Medical Association,* October 21st) refers to Palet's statistics and shows that of a hundred and thirty-six cases of nephrectomy done for renal tuberculosis, fifty-one, that is forty per cent., died, and that only one third of those operated on lived over one year. This result was due to infection of other organs. He recommends ichthyol internally.

℞ Ichthyol. sulpho-ammoniac., Aquæ destillatæ,	āā....... ʒv.

M.

From ten to seventy drops to be taken in water three times a day after eating. The larger the dose the sooner the curative action is manifested. Besides causing a general improvement, the author has found that the local action was good—the hæmorrhages ceased and the suppuration diminished, as did also the tenesmus and pain. It may be given for years.

Electricity in Sciatica.—Dr. James Taylor (*Clinical Journal,* October 11th) reminds us of the well-known but too much ignored fact that electricity is very useful in sciatica; it is useful, first, in relieving the pain, which is often severe, and, in the second place, it is useful in stimulating muscles which have become wasted, and thus aiding their growth. In sciatica itself the best current to use is, he says, the constant current, and it is best used by getting the patient to lie prone with one of the flat conductors over the sciatic area, the other pole being stroked over the distribution of the nerve. He has known very great benefit, and, indeed, practically complete relief, afforded in sciatica from comparatively few applications of the battery.

For Sycosis.—*Riforma medica* for September 18th gives the following:

℞ Naphthol	from 75 to 150 grains;
Green soap, Prepared chalk, Sulphur, Lanolin,	of each ..... 375 "

M.

For local application.

The Place of Digitalis in Heart Disease.—Dr. W. H. Washburn (*Merck's Archives,* October) concludes a paper as follows: Digitalis is seldom required in chronic valvular disease during the period of complete compensation. When the stage of broken compensation is present it is urgently demanded, in all forms and combinations of lesions, in proportion to the degree of cardiac weakening. When given in doses of more than two or three grains of the powdered leaves, or the equivalent thereof, in the twenty-four hours, symptoms of saturation are to be anxiously watched for when from thirty to forty grains have been administered, and the drug should be discontinued for a few days or the dose reduced as soon as they appear. The drug is thereafter to be continued in tonic doses. Finally, tonic doses of digitalis are always useful in the treatment of weak, neurotic hearts.

For Impetigo.—*Riforma medica* for September 18th ascribes the following to Brandis:

℞ Salicylic acid	30 grains;
Lanolin	750 "
Oxide of zinc, Starch,	of each ...... 360 "

M.

For local application.

Ichthyol in Whooping-cough.—Dr. J. Francis Sonter (*Australasian Medical Gazette,* September 20th) records the satisfactory results obtained by him with pills of ichthyol in whooping-cough. He put four of his own children, varying in age from two years and six months to eight years, on one grain (increased in a few days to two, then to three and four grains) every four hours. Marked improvement ensued from the first, and Dr. Sonter tried the remedy with equally favorable results in ten other cases. He saw no unpleasant effects.

For Coryza.—*Riforma medica* for July 7th ascribes the following to Hallopeau:

℞ Powdered menthol	3¾ grains;
Powdered betol	37½ "
Cocaine	7½ "
Powdered roasted coffee	60 "

M.

To be used as a snuff.

Potassium Permanganate Enemata in the Treatment of Dysentery.—Dr. Gastinel (*Archives de médecine navale,* 1899, No. 8; *Klinisch-therapeutische Wochenschrift,* October 15th) finds that potassium permanganate acts not only as an astringent, but also as an antiseptic in cases of dysentery, and exerts a very favorable influence upon the inflamed and ulcerated mucous membrane. Enemata containing the salt give rise to a dull pain, but it is quite bearable and soon subsides. A one-to-two-thousand solution is used, and about two ounces, heated to 113° F., are injected slowly. The enema should be retained from half a minute to two minutes, and before it is employed the rectum should be washed out with warm water. The patient should keep perfectly quiet for an hour after each injection. For children the solution should be of the strength of one to five thousand, and for very young infants of one to ten thousand. This treatment is quite efficient for proctitis also.

Menthol and Orthoform in Laryngeal Tuberculosis.—Freudenthal (*Semaine médicale; Fortschritte der Medicin,* October 4th) recommends the following mixture for allaying the pain:

℞ Menthol	150 grains;
Orthoform	188 "
Oil of sweet almonds	450 "
Yolks of eggs	No. 2;
Distilled water, enough to make	1,500 "

M. The fauces and the rima glottidis are first anæsthetized with cocaine, and then a little of the emulsion is applied within the larynx. The soothing effect is said to be far greater than that of orthoform alone.

THE
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MYORRHAPHY OF THE RECTI ABDOMINIS FOR EVENTRATION.

SUCH decided separation of the recti muscles of the abdomen as to allow of the escape of the abdominal viscera, constituting eventration, is, fortunately, among the rarer accidents of childbirth. When it does occur, it is apt to give rise to a great deal of suffering and disability, and palliative treatment by means of retentive apparatus is not usually very effective. The more radical procedure of uniting the two recti, drawn aside by the action of the obliqui, by means of suture seems to promise a practically perfect cure. In the *Journal de médecine de Paris* for September 3d there is a translation, by Dr. J. Targowla, of Dr. A. A. Mouratof's account of a case in which he performed such an operation with entire success. The translation is not said to have been made from the author's manuscript, so we suppose the article was originally published in some Russian journal.

In this case the separation of the muscles was not noticed until the patient left her bed, on the fifth day after her delivery with the forceps. Labor had lasted thirty-six hours. It was five months later that the operation was performed, and at that time the eventration was complete, the abdominal organs lying immediately beneath the integument and being freely palpable as to all the details of their contour. The incision reached from less than an inch below the xiphoid cartilage down to the pubes. It was not an easy matter to find the inner edges of the recti, for those muscles had been drawn far apart by the action of the obliqui, and the recti themselves were very much attenuated. Their inner edges were refreshed and brought together with fine silk sutures inserted about a quarter of an inch apart. In addition, four heavy silk sutures were made to include both muscle and integument, but not the peritonæum. The last-named structure, indeed, was not opened at any time during the operation. Finally the skin was united by fine superficial sutures placed at a distance of about a quarter of an inch from each other. Iodoform gauze and tarlatan were applied, and over them several layers of adhesive plaster firmly supporting the abdomen. For seven days the patient was kept recumbent with her knees flexed (presumably also with the thighs flexed on the pelvis). The dressing was changed on the seventh day, and primary union was found to have taken place everywhere except at a point at the upper end of the wound. There was no elevation of temperature save on the third day, when it reached 101.1° F. The stitches were removed at various times from the ninth to the twelfth day, and the patient was allowed to leave her bed on the eleventh day. She was advised to wear an abdominal supporter for two or three months.

A year after the operation the patient became pregnant again, but abortion occurred at the end of two months and a half, without known cause. Two weeks after the abortion she presented nothing abnormal as concerned either the genital organs or the abdominal wall. There was no trace of eventration even when she made great efforts; the reunion of the two muscles was solid and durable, and there were no morbid phenomena whatever. Dr. Mouratof thinks that myorrhaphy of the recti is free from danger, although its performance calls for some delicacy in the case of lean subjects, in whom the muscles are very thin. Although he made use of silk sutures in the case reported, he now thinks it better to employ catgut, to prevent the formation of fistulæ. The after-treatment, he says, should be the same as in cases of laparotomy, the sutures should be removed gradually, beginning not sooner than the ninth day, and the patient should wear an abdominal bandage for two or three months.

A PLEA FOR GREATER BREADTH OF VIEW.

Two remarkable addresses have been delivered this year, remarkable in that they both came from men of prominence and standard professional reputation, and are both iconoclastic as regards one of the most firmly fixed ideas of modern medicine—viz., the specific germ causation of infective diseases. The first address was delivered by Dr. Granville Bantock before the British Gynæcological Society on March 9th, and was published in abstract in the *British Medical Journal* for April 8th of this year. The second was by Dr. George Wilson (*Lancet*, August 5th), a prominent English medical officer of health, author of an admirable and widely used *Handbook of Hygiene*, and president of the Section of State Medicine at the annual meeting of the British Medical Association; and it was, moreover, delivered *ex cathedra* as his presidential address. The burden of both addresses was the same—that the micro-organisms whose constant presence has led to their being regarded as specific causes of disease are associated with the disease only because the disease provides the conditions necessary for their free development—in other words, their presence is the result, not the cause, of disease. It would take too long to review here in detail the various facts upon which these authors rest their opinions, and it must be admitted that to uncritical inspection they carry considerable weight; but they are all overcome in every case where Koch's rules have been fully complied with, viz., that a pure culture of the "associated" germ, grown outside the body, must reproduce the disease on introduction into the body of another animal, the same germ being then found in the animal so inoculated.

But these addresses are not without great value for all that, for they serve as notes of warning against any extravagant pushing of theories. In our stubborn war against the bad seed, we are in danger of losing sight of the important part played by the soil in the process of germination. Many years ago—in the days when the identity of typhus and typhoid fevers, or their difference, was still an open question, Dr. King Chambers, discussing in those admirable clinical lectures of his—models of straight thinking as they are—the subject of "typh-fever," gave utterance to this sententious statement: "For the act of poisoning to occur two things are requisite—first, a poison, and secondly, a person apt to be poisoned." In germs, in poisons, in medicines, as in many other things, we have long been devoting our attention too exclusively to the "poison" to the neglect of the "person apt to be poisoned." The importance of the latter needs no illustration. There is the wheat that will not grow on stony ground; there is the opium-taker who has so prepared the soil that a wineglassful of laudanum will not kill him; there is the person who goes freely among those stricken with infectious disease, and yet, though inevitably absorbing the disease germs, does not contract the disease, either because he has had it before or because he presents a naturally unsuitable soil. Dr. Wilson says: "The bacteriologists so dominate the public press that we almost seem to live in a bacillus-stricken world. . . . I venture to say that the unconditional microbe need have no terrors for humanity." It is just this dread of the "unconditional" microbe that will soon make life a misery to man, until he will begin to feel that the only way to avoid dying of the manifold perils that surround him is to kill himself at once. The idea is being pushed so far that one doubts whether it is safe to breathe at all, for fear of inhaling the tubercle bacillus; to eat or drink, from the risk of taking in the typhoid bacillus; while, as to kissing the object of one's affection, it is fraught with dangers too numerous to mention and too terrible to contemplate. It was the dread of the "unconditional" microbe that led to the recent attempt to introduce an impracticable tuberculosis quarantine in California.

And whence comes all this distortion of harmony and proportion? Surely from forgetting that the same laws which hold good for the individual body hold good for the body corporate. We should deride the man who endeavored to get a knowledge of the liver from its appearance under a sixteenth-of-an-inch oil-immersion lens without ever having seen that viscus as a whole, or any larger portion thereof than a microscopic section affords; yet in all these questions affecting the macrocosm we are peering all the time through moral microscopes and losing sight altogether of the sense of breadth and proportion attainable only from a careful macroscopic observation before the object is submitted to a lens at all. And the newspaper hysterics take our careless observations and our differing views, and with their "crowd suggestion" drive bodies of otherwise sensible men to hasty, impracticable, unjustifiable, undue restrictive legislation until it seems no longer safe to live.

SODIUM SALICYLATE IN THE TREATMENT OF DIABETES.

The use of sodium salicylate in the treatment of diabetes is not quite a novelty; in fact, its employment in the iritis of diabetics has been recommended by a number of writers. It is doubtful, however, if physicians in general look upon the drug as capable of fulfilling so many indications incident to the disease as are brought forward by Dr. Litten (*Therapie der Gegenwart*, 1899, No. 3; *Deutsche Aerzte-Zeitung*, September 15th). He prescribes a tablespoonful of a four-per-cent. solution to be taken every two or three hours, and says that larger doses are quite unnecessary. He finds that under the salicylate treatment the proportion of sugar in the urine sinks one or two per cent. almost always, but it is against a large number of the "nervous" complications that the drug is mainly useful. Especially brilliant, says Dr. Litten, is its action in allaying the itching of diabetics and even in causing the subsidence of the weeping eczema that is apt to follow, although occasionally preparations of tar prove efficient when the salicylate has failed. In neuralgic complications, such as sciatica, intercostal neuralgia, and zoster, the drug often proves highly efficient.

The author dwells particularly on the virtues of sodium salicylate in decreasing the amount of urine secreted and abating the thirst, both of which symptoms he interprets as of nervous origin. This action of the salicylate, he says, is extraordinary in many cases. He cites the case of a child that had become very much reduced in the course of pronounced diabetes mellitus. A strict meat diet had had no effect on either the excretion of sugar, the distressing pruritus, the unquenchable thirst, or the enormous flow of urine. A teaspoonful of the solution given every three hours worked like a charm in relieving the itching, the thirst, and the polyuria, while the amount of sugar in the urine fell from five to less than three per cent. and the insatiable appetite was reduced.

It will be seen that Dr. Litten does not allege that sodium salicylate is to be regarded as curative of so serious a disease as diabetes mellitus, but, if his experience with it as a palliative proves to be that of most physicians who employ it in the treatment of that disease, a decided advance will have been made in the effort to prolong the lives of diabetics and to relieve them of much of their distress.

A REMARKABLE YARN ABOUT A JEALOUS DOCTOR.

On Thursday of last week the *Mail and Express* published an account of the case of a blind man, related by himself, who declared that some years before a certain physician who was at the time a friend of his had treated him for some eye trouble, but without success, whereupon another physician was called in. The second doctor was successful for a time, but eventually he, too, failed in the case, which went on to complete blindness. The first doctor, it is gravely asserted, confessed on his deathbed that out of jealousy he had surreptitiously drugged the ailing man in such a manner as to produce blindness! What a pity that he did not reveal the name of the drug!

AN ASTONISHING REVIVAL FROM ASPHYXIA NEONATORUM.

Last week several of the newspapers gave accounts of the temporary recovery of a newborn child supposed to have been stillborn, and that after its exposure to a cold-storage temperature for a considerable length of time. The story appeared preposterous, but a well-known physician who holds a public office the duties of which call him frequently to the morgue assures us that in its main statements it is true. It seems that two newborn twins, to all appearances dead, were brought to the morgue by their father. They were at once put into the cold receptacle—so cold, our informant tells us, that when it is opened for a few minutes the bystanders feel like buttoning up their coats. After a while one of the employees heard proceeding from the inclosure sounds which he thought might be made by mice; then the sounds grew louder and seemed to him to be those of a cat. Curiosity led him to investigate, and he found that the cries came from one of the infants, although it had been exposed for a long time, certainly more than half an hour, to the intense cold. The child, about whom there was no warm wrap, was rescued at once and sent into Bellevue Hospital, where its full resuscitation was accomplished. Unfortunately, however, it lived only a few hours. Surprising as it is, we do not think this occurrence need worry those persons who rely on the undertaker's refrigeration as a safeguard against burial alive.

ROSE SPOTS IN A CASE OF INFLUENZA.

As is well known, considerable diagnostic importance is attached to the rose spots of typhoid fever. Although, of course, the absence of that disease does not necessarily preclude the appearance of such maculæ, their presence in a case at all suggestive of typhoid fever, but of a different nature, may well be embarrassing. Such a case is reported by Dr. E. Feindel and Dr. P. Froussard (*Gazette des hôpitaux*, 1898, No. 62; *Centralblatt für innere Medicin*, October 21, 1899). Two trials of the agglutination test proved negative, one during the stage of full development and the other during convalescence, and the authors held to the diagnosis of influenza.

MULTIPLE OCULAR MANIFESTATIONS OF SYPHILIS.

While isolated ocular complications in syphilis are not uncommon, a case recorded by Dr. Lor (*La Clinique*, Bruxelles, July 29th; *Journal de médecine de Paris*, October 1st) shows an unusual variety of such complications. Within a year of the initial chancre Dr. Lor's patient displayed in the order given the following series of ocular symptoms: Optic neuritis with internal ophthalmoplegia (paralysis of the iris and of the muscle of accommodation) in the left eye; papulæ of the ocular conjunctiva and lacrymal obstruction; double seropapular iritis; and interstitial keratitis of the left eye.

NASAL OBSTRUCTION DUE TO A LEECH.

In our issue for October 7th we cited from the *Lancet* a case of epistaxis due to a leech in the nares. Dr. Lim Boon Keng, of Singapore (*Scottish Medical and Surgical Journal*, October), records the case of a Japanese workman who had all the appearance of having recently lost a large quantity of blood. A leech had got into his nostril about three months before while he was bathing. A forceps was applied to the leech, which, however, held on so firmly that traction was abandoned. Syringing the nostrils with potassium permanganate lotion only made the animal contract more firmly. Finally the patient was caused to inhale a few drops of chloroform by each nostril, when it relaxed its hold and fell with the forceps to the floor. Dr. Keng suggests that probably a better way would be to inject a few drops of chloroform into the body of the leech with a hypodermic needle. This will recall a recent suggestion as to the hypodermic injection of morphine into a protruding tapeworm.

RED SPECTACLES FOR SEASICKNESS.

The *Canadian Medical Record* for October quotes the *Scientific American* as saying that bright red spectacles accompanied by the internal administration of calomel form a new German specific against seasickness. It is deduced from Epstein's investigations on the influence of color on the blood-vessels in the brain. Seasickness is due to lack of blood in the brain, while red sends blood to the brain with a rush. By looking at one point for some time through the red glasses the patient is cured radically. This seems like one of those things that are said to be evolved out of the inner consciousness; yet it is not altogether improbable, and its truth or falsity should be easily susceptible of definite settlement.

THE EFFECT UPON THE UTERUS OF EXTIRPATION AND TRANSPLANTATION OF OVARIES

A SERIES of twelve experiments performed upon rabbits by H. Rubinstein (*St. Petersburger medicinische Wochenschrift*, 1899, No. 31, p. 281; *Presse médicale*, September 20th) gives results that have a bearing upon removal of the uterine appendages. In twelve rabbits the ovaries were excised, and they were left free in the abdominal cavity in seven of them, while in the other five they were grafted at some point on the peritonæum. After some time the animals were killed and a histological examination made of the uterus with the following results: In those cases where the ovaries, whether left free in the peritoneal cavity or grafted on to the peritonæum, had been resorbed, the uterus presented the classic lesions of atrophy from castration—that is to say, atrophy of the mucous and muscular layers, thickening of the vessels and proliferation of connective tissue in all the layers of the uterine wall. On the other hand, in those cases where the ovaries had taken root and continued to exercise their functions this atrophy did not take place. From these facts the author concludes that the atrophy of the uterus supervening upon ablation of the ovaries is not due to the destruction of the circulatory and nervous connections between these organs, but to the abolition of the ovarian secretory function.

INFLUENZA AND POST-NASAL ADENOIDS.

WITH its own inherent dangers and its protean and horrible sequelæ, influenza is one of the notable plagues of the last few years. That is all the more reason to be thankful that in a few instances it has proved beneficial by causing the rapid disappearance of adenoid growths in the vault of the pharynx. Several cases of this occurrence are reported by Dr. Chauveau (*France médicale*, September 1st; *Lancet*, October 21st).

EXPRESS COMPANIES AND SAMPLES.

SEVERAL times a year, for a decade or longer, a physician living in the Twenty-sixth Ward of the borough of Brooklyn has received notice by mail, from the manufacturers of dietetic and medicinal preparations, to the effect that they had sent him samples of their goods and asking his opinion on their merits. In only two instances, to the best of his recollection, have the articles reached him when sent by express, nor has he ever received a notice from an express company that a parcel directed to him was in its possession and might be called for. Articles sent by mail have always arrived. As the doctor did not wish, for various reasons, to seem desirous of receiving such samples, he has generally refrained from notifying the senders of these articles of their non-arrival; but he is beginning to take a new view of the subject, and hereafter every non-delivery will be reported, in order to guard the makers or venders against something that is certainly an imposition if not worse. In this great country, with its enormous express business, the value of articles thus miscarried, including the money paid in advance for their carriage and delivery, may amount to an immense sum in the course of a year.

AGAIN THE DOCTOR IN GENERAL LITERATURE.

THE recently published *Life of General Nathan Bedford Forrest*, by Dr. John Allan Wyeth, is a conspicuous example of what might oftener be expected of the educated and thoughtful medical man did not the greater number of us become narrowed by the demands of practice and live only in and for the "shop." The book represents years of research; in fact, ever since the closing years of the civil war, when Dr. Wyeth served in a regiment under Forrest's command, he has been a student of Forrest and his career. The value of the work is very great, both historical and literary.

THE TERM SIRIASIS AND THE DOG STAR.

THERE has lately been a tendency to revive the old term siriasis as the name for insolation. Dr. Kenneth Macleod (*British Medical Journal*, September 9th) objects to it as "more or less mythological," and goes on to show the "very infirm foundation" of the hypothesis of the connection between sunstroke and the dog star. His objection seems to be somewhat unnecessary, for the word siriasis is not derived from Sirius, but from *σειριᾶν*, to be hot.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending November 4, 1899:

DISEASES.	Week ending Oct. 28.		Week ending Nov. 4.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	75	20	75	18
Scarlet fever	117	4	108	8
Cerebro-spinal meningitis	0	6	0	6
Measles	176	8	180	9
Diphtheria	206	29	224	24
Croup	13	8	3	5
Tuberculosis	151	140	139	135
Small-pox	4	0	0	1
Chicken-pox	18	0	17	0

Digestive Value of Hearty Laughter.—Hippocrates, says the *Virginia Medical Semimonthly* for October 13th, recommended eating at table with others, and the making of conversation as gay as possible, since hilarity and laughter were the greatest aids to digestion. This he believed was a happy and rational application of physiology, of which the stomach derived the greatest benefits. Not long ago, a gentleman excused himself at the last moment from attending the theatre, on the plea that he had then a violent attack of indigestion. "Go," said his physician friend, "by all means go, as nothing will so surely and quickly cure you as a good hearty laugh." The play was a broad farce, full of ridiculous situations, from start to finish, and the result proved the wisdom of the doctor's suggestion. Long before the first act was over, the patient said he never felt better in his life.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Surgery, on Tuesday evening, the 7th inst., Dr. Herman Mynter read a paper entitled The Ætiology and Pathology of Appendicitis, and their Bearing on the Treatment.

Changes of Address.—Dr. E. F. Arnold, to No. 30 West Thirty-second Street, New York; Dr. Andrew F. Currier, to No. 321 Lexington Avenue, New York; Dr. A. B. Townshend, to No. 33 West Thirty-third Street, New York.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, and plague were reported to the surgeon-general during the week ending November 3, 1899:

Small-pox—United States.

Batesville, Ark	Oct. 26	1 case.	
Little Rock, Ark	Oct. 26	10 cases.	
Kananna, Ark	Oct. 26	1 case.	
Newport, Ark	Oct. 26	2 cases.	
Russellville, Ark	Oct. 26	1 case.	
Tuckerman, Ark	Oct. 26	2 cases.	
Washington, D. C.	Oct. 22–28	2 “	
Lumpkin, Ga	Oct. 22	Present.	
Richland, Ga	Oct. 22	Present.	
Chicago, Ill	Oct. 21–28	1 case.	
Concordia Parish, La	Oct. 11	1 “	
New Orleans, La	Oct. 14–28	1 “	
Chelsea, Mass	Oct. 21–28	2 cases,	3 deaths.
Benton Harbor, Mich	Oct. 28	10 “	
Grand Rapids, Mich	Oct. 21–26	1 case.	
New York, N. Y.	Oct. 21–28	4 cases.	
Cincinnati, Ohio	Oct. 21–28	3 “	
Cleveland, Ohio	Oct. 21–28	7 “	
Bristol, Tenn. and Va	Oct. 1–13	30 “	
Portsmouth, Va	Oct. 1–28	9 “	1 death.

Small-pox—Foreign.

Buenos Ayres, Argentina	Aug. 1–31	1 case,	1 death.
Prague, Bohemia, Austria	Oct. 7–14	1 “	
Straits Settlements, Singapore	Sept. 16–23.		1 “
Erzeroum, Turkey	Sept. 23–30	3 cases.	

Yellow Fever—United States.

Key West, Fla	Oct. 28–Nov. 1	9 cases,	2 deaths.
Miami, Fla	Oct. 26–31	14 “	
New Orleans, La	Oct. 14–28	12 “	4 “
Jackson, Miss	Nov. 1	6 “	1 death.

Yellow Fever—Foreign.

Buenos Ayres, Argentina	Aug. 1–31	1 case,	1 death.
Curaçoa, West Indies	Oct. 7–21	2 cases,	1 “
Vera Cruz, Mexico	Oct. 13–26	6 “	2 deaths.

Plague.

Hongkong, China	Sept. 9–16	18 cases,	20 deaths.
Nuichwang, China	Sept. 30	Present in epidemic form.	
Oporto, Portugal	Aug. 16–Oct. 15	160 cases,	55 deaths.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 28 to November 4, 1899:*

Bratton, Thomas S., Captain and Assistant Surgeon, United States Army, will report to the commanding officer of the Nineteenth Infantry, Exposition Barracks, Ermita.

Cardwell, Herbert W., Major and Chief Surgeon, United States Volunteers, is assigned to Iloilo, island of Panay, for duty as chief surgeon.

Hallwood, James B., Acting Assistant Surgeon, United States Army, will report for duty at the United States General Hospital, Presidio of San Francisco.

Lewis, William F., Captain and Assistant Surgeon, United States Army, is assigned to Manila for duty as acting medical inspector of the department, relieving Deshon, George D., Major and Surgeon, Eleventh Cavalry, United States Volunteers.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending November 4, 1899:*

Cleborne, C. J., Medical Director. Detached from duty in charge of the Naval Hospital, Philadelphia, and ordered to Washington for examination for retirement, and then home to await orders.

Drennan, M. C., Medical Director. Retired October 24, 1899; section 1453, Revised Statutes, and section 11, Navy *personnel* law.

Eakins, O. M., Assistant Surgeon. Appointed assistant surgeon from October 21, 1899.

Holcomb, R. C., Assistant Surgeon. Detached from duty at the Naval Academy, Annapolis, Maryland, and ordered to the *Solace* for duty in connection with battalion of marines for Manila.

Lowndes, C. H., Passed Assistant Surgeon. Detached from the *Princeton* and ordered home.

Marmion, R. A., Medical Inspector. Ordered to duty in charge of the Naval Hospital, Philadelphia.

McClurg, W. A., Surgeon. Detached from duty as a member of the naval examining board at Washington and ordered home to await orders for sea service.

Riggs, C. R., Passed Assistant Surgeon. Ordered to the marine recruiting rendezvous, New York.

Spear, R., Assistant Surgeon. Detached from the *New York*, ordered home, and granted leave of absence for two months.

Stone, M. V., Assistant Surgeon. Detached from the *Brutus* and ordered to the island of Guam.

McClanahan, R. K., Assistant Surgeon. Detached from the Naval Hospital, Key West, Florida, ordered home, and granted leave of absence for two months.

Spear, R., Assistant Surgeon. Detached from the *New York*, ordered home, and granted leave of absence for two months.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending October 26, 1899:*

Irwin, Fairfax, Surgeon. To report at Washington for special temporary duty.

Banks, C. E., Surgeon. Granted leave of absence for four days.

Kinyoun, J. J., Surgeon. To inspect unserviceable property at San Francisco.

Guitéras, G. M., Passed Assistant Surgeon. Detailed as temporary Quarantine Officer at Havana, Cuba.

Young, G. B., Passed Assistant Surgeon. To proceed to Baltimore for special temporary duty.

Rosenau, M. J., Passed Assistant Surgeon. To rejoin station at Washington.

Sprague, E. K., Passed Assistant Surgeon. Detailed to represent service as technical delegate at meeting of American Public Health Association (Laboratory

Committee) at Minneapolis, October 30 to November 3 (inclusive), 1899.

Cofer, L. E., Assistant Surgeon. Relieved from temporary duty at Mexico, to take effect on or about November 15, 1899, and to rejoin station at San Diego, California, transferring command thereof to Assistant Surgeon C. E. Decker, then to proceed to San Pedro, California, and assume command of the service.

McMullen, John, Assistant Surgeon. To rejoin station at Louisville.

Foster, M. H., Assistant Surgeon. To inspect unserviceable property at Port Townsend, Washington.

Heiser, V. G., Assistant Surgeon. To proceed to Alexandria and Cairo, Egypt, for special temporary duty.

Hallet, E. B., Acting Assistant Surgeon. Granted leave of absence for four days.

Hallet, E. B., Acting Assistant Surgeon. Granted extension of leave of absence for two days.

Richardson, S. W., Hospital Steward. Granted leave of absence for ten days from November 14, 1899.

Peck, F. H., Hospital Steward. To proceed to Miami, Florida, for special temporary duty.

Society Meetings for the Coming Week:

Monday, *November 13th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club (annual); Norwalk, Connecticut, Medical Society (private).

Tuesday, *November 14th:* New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, New York, Medical Association; Rome, New York, Medical Society; Medical Society of the County of Rensselaer, New York; Newark (private) and Trenton, New Jersey, Medical Associations; Camden, New Jersey, County Medical Society (semiannual); Norfolk, Massachusetts, District Medical Society (Hyde Park); Clinical Society of the Elizabeth, New Jersey, General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine.

Wednesday, *November 15th:* Medico-Legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

Thursday, *November 16th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

Friday, *November 17th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Births, Marriages, and Deaths.

Married.

Bostwick—Stuart.—In Beaufort, South Carolina, on Wednesday, October 25th, Mr. Henry F. Bostwick and Miss Mary Barnwell Stuart, daughter of Dr. Henry M. Stuart.

Chamberlin—Bixby.—In Concord, Massachusetts, on Thursday, October 19th, Dr. Theodore Chamberlin and Miss Anne Locke Bixby.

De Bevoise—Pilcher.—In Brooklyn, on Wednesday, November 1st, Captain Charles I. De Bevoise and Miss Sara Fiske Pilcher, daughter of Dr. Lewis S. Pilcher.

Jervey—Smith.—In Charleston, South Carolina, on Thursday, October 26th, Dr. James Wilkinson Jervey and Miss Helen Doremus Smith.

Kittell—Davenport.—In Ghent, New York, on Thursday, October 26th, Dr. Martin M. Kittell, of Kinderhook, New York, and Miss Davenport.

Ramage—Percy.—In West Feliciana, Louisiana, on Wednesday, October 25th, Dr. Charles Lewis Ramage, of Winnsboro, Louisiana, and Miss Rowena Hereford Percy.

Storer — Ayrault.—In Geneva, New York, on Thursday, October 31st, Dr. Malcolm Storer, of Boston, and Miss Grace Ayrault.

Died.

Battle.—In Asheville, North Carolina, on Sunday, October 29th, Alice Maude Battle, wife of Dr. S. Wistray Battle, United States Navy, retired.

Bienvenu.—In Hahnville, Louisiana, on Wednesday, November 1st, Marie Felicie Bienvenu, wife of Dr. Delphin Bienvenu.

Bleecker.—In Whitestone, Long Island, on Sunday, November 5th, Dr. Edward Bleecker, in the fifty-sixth year of his age.

Donovan.—In Troy, New York, on Friday, October 27th, Dr. Daniel D. Donovan, in the twenty-ninth year of his age.

Drury.—In Brooklyn, on Wednesday, November 1st, Dr. Alfred T. Drury, in the seventieth year of his age.

Pardee.—In New York, on Friday, November 3d, Dr. Charles Inslee Pardee.

Taylor.—In Tangipahoa, Louisiana, on Tuesday, October 24th, Dr. W. C. Taylor, formerly of Amite, Louisiana, in the seventy-fifth year of his age.

Von Gohren.—In Bay St. Louis, Mississippi, on Thursday, October 26th, Caroline Von Gohren, wife of Dr. Ludwig H. Von Gohren.

Woodbridge.—In Williamsburg, Massachusetts, on Friday, November 3d, Dr. Luther D. Woodbridge, of Williams College.

Letters to the Editor.

BLUE BOTTLES *VERSUS* RED BOTTLES.

Fort Sill, Oklahoma Territory, *October 26, 1899.*

To the Editor of the New York Medical Journal:

Sir: Why do physicians and pharmacists use blue bottles for medicines which are likely to be decomposed by light? Everybody who knows the first principles of physics knows that the blue rays of the solar spectrum are near the actinic rays, and the red rays are the non-actinic rays. This is a subject which seems to me one that should be agitated. If Aristotle used blue bottles in his drug store two thousand years ago this is no reason why we should continue the practice when we know that it is wrong. Photographers use red envelopes for mailing proofs, showing that they pay attention to this subject. I recently had a negative taken by a photographer. A few days afterward he sent me the proof in a non-actinic (red) envelope. The same day a man came to me with acute trachoma, wearing blue glasses, which had been ordered for him by a physician. I went to the dispensary to have a solution of silver nitrate prepared. There was no colored phial, except a blue one. I looked around for a piece of red paper to cover the phial, but all the paper was blue, too. New dispensing sets are being sent out with blue bottles for medicines which are decomposed by light. I hope you will call the attention of the profession to this matter through the columns of the *Journal.*

M. M. CLOUD,
First Lieutenant and Assistant Surgeon, United States Army.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

BY ARTHUR N. TAYLOR, LL. B.

XLIV.

CRIMINAL LIABILITY.

(Continued from page 684.)

Conditions Existing Subsequent to Alleged Operation Admissible.—Facts and conditions existing subsequent to the alleged operation, but which tend to explain the patient's condition, are also relevant and may be shown upon trial. It was accordingly held proper to permit a witness to state that she had been sent for the day before deceased's death to wash her and change her clothes, and that she found blood stains upon the bed and clothing, and that there was a peculiar offensive odor which she had never noticed before at any time or place, although she had noticed something like it.* And so, a witness was permitted to testify that about the middle of February (the operation being alleged to have been committed about the middle of January) she slept one night in the same bed with the complaining witness, who looked unusually pale and feeble, and sighed and groaned a good deal; that the witness made the bed next morning and saw red stains upon it, through the feather bed and upon the straw bed, which she thought were quite recent, and some of them more recent than others. And another witness in the same case was permitted to testify that she lived in the same house with complaining witness; that about January 20th complaining witness was confined to her bed and that witness was called to aid her and found that she had fainted; that after she began to get well, witness found her washing stains from the tick of her feather bed, and noticed stains upon her straw bed. Regarding the admissibility of this evidence the court said: "The objection that the facts occurred or appearances were observed a month after the alleged abortion does not render the evidence incompetent, though it may affect its weight. That they were not connected with the abortion we can not presume. We can not know that the result of the injury did not continue thus long."

Effect of Proving an Alibi.—An element of defense sometimes available is that of an *alibi,* or the proving by the defendant that he was at another place than that at which the crime was committed at the time of the performance of the criminal act. The effect of such evidence is admirably shown in the case of Commonwealth *vs.* Snow.* Here the woman upon whom the abortion was alleged to have been performed testified positively that the operation was performed on May 20th; "that she knew it was upon that day; that she set it down in her diary upon the evening of that day or the next morning; that she had seen the memorandum upon her diary a number of times since then, the last time within a week prior to her testimony."

The woman's sister, also the father of her child, each testified that May 20th was the day upon which the operation was performed. The former testified that her sister left home that day to have the operation performed, and the latter testified that he took the complaining witness to defendant upon that day, and that defendant performed an operation upon her with an instrument.

The defendant introduced evidence tending to show that upon May 19th, 20th, and 21st he was more than one hundred miles distant from the place where the operation was alleged to have been performed. The court, in instructing the jury upon the weight and effect they should give this conflict of evidence, instructed them that the exact day was not material; that "if the jury were satisfied that the witnesses for the government were in error as to the date stated by them, this was a proper matter to be considered upon the question of the degree of credit they were entitled to as to other matters; and if this, either alone or in connection with other evidence, caused the jury so far to doubt as to their truth and the reliability of their testimony in other matters that they were not satisfied beyond doubt that the defendant did perform the operation as alleged, then they should acquit the defendant." The supreme court, in reviewing this case, said: "These rulings and instructions were right. If the *alibi* was satisfactorily proved, it was for the jury to say what effect it ought to have upon the testimony of the witnesses for the prosecution. It might discredit them altogether. If it did not have that effect, then it required an inference of some mistake on their part, either as to the person who performed the operation, or the true date of its performance. Their testimony was no more positive as to the date than it was as to the person; and they were at least quite as liable to have made a mistake as to the true date as they were in regard to the identity of the person. But in any respect it was entirely a question of fact for the jury, and was rightly left to them to decide."

Illustrations.—Having generally reviewed the law relative to this class of cases, the chapter will be brought to a close with a brief examination of the evidence as shown in the reported cases upon which juries have based their verdicts in several instances.

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* People *vs.* Olmstead, 30 Mich., 431.

* Com. *vs.* Snow, 116 Mass., 47.

The statute under which the case of State *vs.* Van Zile * was prosecuted provides that any person who with intent, etc., "either, first, prescribes, supplies, or administers to a woman, whether pregnant or not, or advises or causes a woman to take any medicine, drug, or substance; or, second, uses, or causes to be used, any instrument or other means, is guilty of abortion, and is punishable, etc." The evidence in this case shows that deceased, in company with a young man, went to defendant's office for the purpose of having deceased examined to determine whether or not she was pregnant. Defendant made an examination, announced that the girl was pregnant, and advised the young man, who for the sake of convenience will be hereafter designated A., to marry her. For the examination defendant charged and received twenty-five dollars. Three days afterward, and on the eleventh day of November, defendant and A. met at a drug store, and, after a conversation in the corner, which was not heard by the clerk, defendant asked for pen and ink and paper, and wrote a prescription, which he gave to the drug clerk and said: "Put it up and give it to this young man." The prescription specified several drugs, which were required to be compounded and made into twenty capsules, one of which was to be taken after each meal. This compound was pronounced by a professor of materia medica to be an abortive mixture. On December 19th deceased had a miscarriage and sent for defendant. Upon his arrival the following conversation took place, so he testified: "The girl said, 'You don't remember me?' And I said, 'No; who are you?' And she said, 'I am the girl that A. had at your office.' And I says, 'What is your trouble?' and she said, 'I am all through my trouble.' 'When did it occur?' and she says, 'Last night.'" The girl became worse, and on the 24th of December the family physician was called in, who testified that the following conversation took place between himself and defendant. "He (defendant) told me that he had been called into the case, I think the Thursday previous, and that she had been getting rapidly worse, and was now in a very bad condition. He did not seem to understand what was the matter—what the trouble was." To the question, "Did he say so?" the family physician replied, "He said so." On the following day the girl died. Defendant went to the druggist and told him that the girl had died, and he thought if the druggist would lend him two hundred and fifty dollars he could pay the funeral expenses and in that way settle with and satisfy the mother. That night defendant fled from the city and remained absent for about three months.

The jury rendered a verdict of guilty. The general term of the supreme court, in reviewing the case, said: "A careful examination of the testimony leaves no doubt of the guilt of the defendant. While it is true that the evidence is circumstantial, and leaves the question of guilt to be determined by inferences drawn from established facts, yet the facts proved are not only entirely inconsistent with the innocence of the defendant, but they can be reconciled upon no theory except that of guilt."

The case of Solander *vs.* People † is also one in which there was no direct evidence of the commission of the crime, and yet it is one in which the circumstances point so strongly to the guilt of the accused as to exclude all reasonable doubt as to her guilt. The principal witness was a man, who, for convenience, will be designated K. This witness testified that about three weeks before deceased's death he procured some medicine from Denver at her request for the purpose of producing an abortion, and that she took the medicine. That a little more than two weeks afterward, on Thursday, deceased went to see defendant, and that on the way home she told him that she had visited defendant for the purpose of employing her to procure an abortion, and that defendant had stated that it would be necessary to use an instrument and to procure medicine from St. Louis, and that she would charge thirty dollars for the services. K. further testified that on the following Saturday he returned with deceased, a distance of some eight miles, to defendant's office, and that defendant and deceased were alone about an hour; that defendant and K. then returned with deceased to her home, and that defendant remained there until Monday morning. Witness said that defendant left some powders with deceased Monday morning, and that he gave deceased some of them, and that after taking each powder she fainted. Next day deceased died. Shortly before her death, however, the witness K. went for defendant and told her that deceased desired to see her. Witness testified to a conversation which then took place between him and defendant in which defendant disclosed knowledge of deceased's condition, and of the nature of her illness. That defendant stated that deceased had been taking medicine from Denver, and that if she should die that medicine would be the cause of her death; that, defendant said, would clear her. Witness testified that defendant inquired for the fœtus which had come from deceased, and requested him to take it away, as inquiry might be made for it. Witness testified that on the following day he returned with defendant to her home and that she then told him that she wanted to get a certain man, naming him, for her lawyer, and that she wanted to get two certain doctors, who were good friends of hers, to go over for the examination, and that she would be all right; and that if any one should ask witness what was the matter he should say that he did not know.

There was expert evidence offered to show that death was caused by an attempt to produce an abortion, and that an instrument was used for that purpose. Evidence was also adduced by the State that a bougie, broken into three pieces, was found upon the premises of the deceased, and that the injuries observed in the womb of deceased might have been produced by that instrument; also that the powders left with deceased bore a striking resemblance to gossypium, and that the effect of the drug was abortionary. A witness testified that when the bougie was found defendant disclaimed any knowledge of it, and said she did not know what instrument was used for procuring abortions; that she had never seen one. The coroner testified that at the inquest defendant told him that she supposed deceased was laboring under *prolapsus uteri,* and that she was treating deceased for that, but that he saw no indications in the body of deceased of *prolapsus uteri.* Defendant took the witness stand in her own behalf and denied having used any instrument, and also that she had advised it. She admitted having given powders, but denied that they were gossypium, and averred that they were not intended to produce abortion.

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* People *vs.* Van Zile, 73 Hun, 534, 26 N. Y. Supp., 390.

† Solander *vs.* People, 2 Colo., 48.

Among other instructions, the court gave the jury the following: "Neither is it necessary that it should appear by the evidence that the prisoner, with her own hands, used any instrument upon the person of deceased, or that with her own hands prisoner administered to the deceased any drug or substance. If prisoner furnished any instrument to deceased or to any other person with intent that deceased or any other person should use such instrument for the purpose of procuring the miscarriage of deceased, she being then pregnant, or if prisoner provided any noxious drug or substance with intent that deceased, being then pregnant, should administer the drug or substance herself, or that any other person should administer it to her in order to produce the miscarriage of the deceased, prisoner thereby constituted the deceased, or the person to whom such instrument or drug was delivered or provided, her agent, and is accountable for all the acts of such person done in pursuance of the agency. And if such person, whether the deceased herself or any other, used such instrument upon the person of deceased, or administered such drug to deceased with the intent to produce the miscarriage of deceased, and by reason of such treatment the deceased came to her death, the prisoner is guilty as charged in the indictment, even though she was not present at the time of the use of the instrument or administration of the drug."

The jury returned a verdict of guilty, and the prisoner was sentenced to confinement in the penitentiary for a term of three years.

The supreme court, in reviewing the case, approved of the instruction above quoted, and also gave their opinion that the trial court had made no error in permitting the witness K. to testify to the conversation had between himself and deceased while returning from their first visit to defendant. The court, in discussing the question of admissibility of this conversation, affirms the correctness of the rule that a mere narrative of past events, not made in furtherance of the criminal design, is not evidence against one who was not present when it was uttered, and consequently can not be repeated on the witness stand. But the court continued: "Although the statement of deceased was made after the interview with prisoner, and was, in one sense, a history of a past event, it was during the pendency of the criminal enterprise, and closely attendant upon an act done to promote the illegal purpose. If the evidence was admissible upon the principle of *res gestæ*, as I think it was, it would not have been proper to exclude it upon the ground that it was merely a narrative of past events."

The case of State *vs.* Clements * impresses one very forcibly as illustrating the danger attending the professional life of the medical man. Here the unfortunate combination of circumstances which entangled the defendant and brought disgrace and conviction upon him is one that is liable at any time to ruin an honest practitioner who has not the opportunity of protecting himself by the counsel and assistance of his reputable professional brothers, and it is one against which the honest physician can not take too great precaution.

The evidence in this case showed that the deceased was a young unmarried woman who had been stopping for some time at the hotel where she died; that on the morning of her death defendant locked her door and passed out of the hotel, and remarked to some one that she was sleeping quietly, and that he did not want her disturbed. A few hours afterward, at about nine o'clock A. M., defendant came back, and, upon going to deceased's room, called some one and stated that "Lena was dying." The defendant was immediately arrested and placed in charge of the constable. Upon leaving the hotel defendant told the constable that he had something to show him at his office. Upon arriving at the office he exhibited to the constable a fœtus of which he said deceased had been delivered. Shortly before this, and at about the time deceased was first taken sick, the defendant exhibited in the drug store to the druggist a stout sharpened quill about six inches long, being bloody, and having the appearance of having been recently imbedded in living animal tissues, which he claimed to have taken from her room. He stated to the druggist: "I want you to examine this. I may need it for my protection. I am afraid this case will get me into a scrape yet. Some woman has been using this for a criminal purpose."

The post-mortem examination showed that there was some abrasion or scratching of the interior walls of the uterus, apparently caused by some rough instrument, but that the injuries were slight. There was no indication that deceased met her death by abortion produced by drugs.

The principal witness for the State was the colored cook of the hotel, who testified to finding deceased lying upon the floor of her room about the time she was taken ill, and, contrary to the objections of defendant's counsel and contrary to the law of evidence, was permitted to testify to the following conversation: "I asked her if the doctor had used instruments upon her. She said, 'Yes.'" This statement, it will be seen, was not admissible as a dying declaration, nor was it a part of the *res gestæ,* but was mere hearsay and inadmissible. It appeared also that defendant while attending deceased misrepresented the nature of her illness.

The evidence given by defendant upon his own behalf was that deceased applied to him on August 12th, nineteen days before her death, to perform an abortion upon her; that he refused absolutely to do it; that some ten or twelve days prior to her death deceased called upon him to treat her professionally for some derangement of the uterus; that he made an examination and found a sponge imbedded in the tissues in the mouth of the womb; that he used a metallic speculum and forceps, and removed the sponge; that he found the place occupied by the sponge lacerated, the sponge covered with pus, and very offensive; that he treated her for about six days, and dismissed the case. Defendant testified that he did not see deceased again until August 25th, when he was called by her; that she complained of nausea of the stomach, and pains in the abdomen, and upon being questioned denied having made any attempt at abortion; that symptoms rapidly disclosed themselves indicating labor pains; that he prescribed anti-abortive treatment; that there were no other physicians in reach with whom to consult, and deceased had no means to employ medical assistance; that he continued such treatment; that deceased then informed him she had made an attempt to accomplish a miscarriage by inserting a quill into the uterus, and told him where the quill could be found, and which was shown to be the same quill before referred to; that thereafter, on the night of August 30th, deceased gave birth to a dead fœtus; that for a considerable time prior to this deceased was in such a condition that to have exposed the cause of her illness would have resulted in a nervous shock extremely dangerous to her life; that defendant removed the fœtus and its appendages, and afterward surrendered them to the officer; that he administered opiates to deceased, placed her in bed for the purpose of securing repose, gave directions that she should not be disturbed, left the hotel, and went to his breakfast. That upon returning in about an hour afterward, he found her dying, uterine hæmorrhage having set in during his absence, and caused her death.

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* State *vs.* Clements, 15 Or., 237, 14 Pac. Rep., 410.

The jury returned a verdict of guilty, and judgment was entered thereupon. The supreme court, however, upon reviewing the case, reversed the judgment and sent the case back for a new trial, because of errors committed by the court below. One of these errors was permitting the cook to testify to the conversation between himself and deceased which was above referred to. The result of the second trial of the case is not known to the author.

Another case which shows to what extreme verdicts juries will sometimes allow themselves to be persuaded by the great zeal that often actuates prosecuting attorneys to secure a conviction, irrespective of the merits of the case, is that of Clarke *vs.* People.* Here the defendant was convicted of procuring an abortion upon the deceased, a young unmarried woman. There was much evidence taken, but very little of it reflects unfavorably upon the defendant. The substance of the evidence of the prosecution was that a miscarriage had taken place from the effects of which death ensued; that defendant was the sole attending physician at the time of the abortion and for some time prior and subsequent thereto; that defendant burned the fœtus instead of burying it; and that in reply to a question propounded by the landlady of the house where deceased was stopping, defendant stated that the patient was suffering from inflammation of the bowels.

Defendant testified that deceased first sought his services on the twenty-fourth day of February, and that she was at that time suffering from "bearing-down pains"; that upon his next visit, which occurred next day, he cautioned her in reference to the danger she was incurring, and warned her against the effects of the course she had entered upon, advising her that she should reconcile herself to her condition and let the full time elapse before birth. At the end of this visit he was paid for his services and considered himself discharged from the case. Defendant testified that a few days later he was called again, and that deceased was threatened with a miscarriage; that it was too late to prescribe medicine to counteract the effect of the drugs she had previously taken, but that he did prescribe quiet and rest; that, finding this would not prevent the abortion, he did what he could to relieve the patient and save her life. It was shown that on the day before the patient's death defendant informed her she was not progressing so favorably as he had hoped, and that he desired a physician in consultation, and advised that her parents be notified. To both of these propositions deceased objected. Finding deceased worse next morning instead of better, defendant telegraphed her father and sent out for another physiciaan, but, owing to delay, the latter arrived only shortly before her death. In explanation of the burning of the fœtus, defendant testified that decomposition had set in, rendering an immediate disposition of it necessary; that the patient required his immediate attention, and that there was no other man about the premises to bury it, and that burning was the most effective as well as the most convenient way to dispose of it.

It also appears that deceased, shortly before her death, fully exonerated defendant, and said that he was not the cause of her sickness. It further appears that immediately after the death of deceased, defendant took her effects to the coroner, and notified that official of the cause and circumstances of her death.

How a jury of intelligent men could have rendered a verdict of guilty upon this evidence it is difficult to understand. The forces of eloquence and personal magnetism moved by a mistaken zeal are often potent factors in working injustice and may have been largely accountable for the termination of the present suit. It is extremely gratifying, however, to observe the wholesome check which our higher courts place upon the trial courts which are sometimes betrayed into a display of feeling prejudicial to justice. In the present case it is believed that every reader will heartily approve of the sentiment expressed by the supreme court, which, in reversing the judgment, says: "The crime charged is one that strikes at the foundation of our social fabric, and is well calculated to arouse the indignation of all right-thinking people; but to allow this conviction to stand would be to violate the fundamental rule of the criminal law fixing the quantum of proof necessary to sustain a conviction. We fully agree with the attorney-general that prudence would have dictated the calling of counsel at an earlier period in the case; but the neglect in this particular can not be taken as a justification to the verdict and judgment rendered in the court below."

At an early period in the examination of the subject of criminal abortions in this chapter it was stated that the matter was regulated by statutes in the several States. The cases and general rules of evidence which have been examined will be found applicable in nearly every instance in proving that the statute has been violated, but the exact act or series of acts which shall in any given State amount to the crime of procuring an abortion can be determined with certainty only by carefully examining the local statute regulating the matter.

(To be continued)

Pith of Current Literature.

Acoine, a New Local Anæsthetic.—R. L. Randolph (*Ophthalmic Record*, August; *Therapeutic Gazette*, October) refers to observations of Trolldeiner (*Therapeutische Monatshefte*, January) on the discovery of a new local anæsthetic, acoine. Acoine is a white powder, quite soluble in water in the proportion used in the author's experiments—*i. e.*, four grains and a half to the ounce of water. It is derived from guanine, which is found in almost all animal and vegetable cellular tissue. Acoine is related to caffeine and theobromine. Randolph concludes that: 1. Acoine in solutions of one in one hundred and one in three hundred produces satisfactory anæsthesia in an unirritated eye in about the same length of time as cocaine. 2. In more than one case where the eye was congested repeated instillations of acoine were inadequate to produce satisfactory anæsthesia. 3. Inspection of the cornea with a high-power lens failed to show any defects in the epithelium after its use. 4. Acoine has no effect upon accommodation. 5. It has no effect upon the size of the pupil. 6. It does not increase intraocular tension. 7. Several experiments showed that the *Staphylococcus pyogenes albus* did not grow in agar which contained acoine in the proportion used in the clinic, and furthermore, that exposure of this organism to the action of acoine for twenty-four hours was followed by its death. This would look as though acoine were not only an inhibitor of the growth of the *Staphylococcus albus*, but that it also killed this organism after a certain length of time. It is, of course, evident that conclusions drawn from this limited experience with acoine may have to undergo more or less modification with further trial.

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* Clarke *vs.* People, 16 Colo., 511.

The Uses of Rectal Irrigation in Gynæcology.—Dr. C. R. Hyde (*American Gynæcological and Obstetrical Journal; Canada Lancet*, October) epitomizes a paper on Rectal Irrigation in Gynæcology: Rectal irrigation has been found to have a distinct value: 1. In leucorrhœas. 2. As a substitute for vaginal douching in young girls. 3. In acute and chronic ovarian and tubal lesions, with the possible exception of pyosalpinx. 4. In intestinal paralysis following sepsis. 5. After major pelvic operations to relieve any abdominal discomfort or tympanites. 6. In intestinal colic. In constipation its value is doubtful. The author says that rectal irrigation commends itself to gynæcologists for thoughtful and unprejudiced consideration, as having seldom failed to meet the test on fair trial. For the irrigation either a rubber, aluminum, or glass tube is used, and at least two gallons, preferably from six to eight, of saline solution at a temperature of from 110° F. to 115° F., are employed. The advantages of this method over the vaginal douche lie in the fact that a much greater amount of fluid may be used, and that it comes in contact with a much greater vascular surface.

Psilosis, or Aphthæ Tropicæ.—Psilosis, or tropical "sprue," is a disease of tropical climates in the Far East with which some of our physicians practising in our newly acquired Eastern possessions may become acquainted. Dr. George Thin, president of the Section of Tropical Diseases of the British Medical Association (*Journal of Tropical Medicine*, September), read a paper on this disease at the last meeting of the association. He said that the disease was characterized by certain symptoms which were never absent. Irregular and abnormal motions were always present. There was, first, diarrhœa, varying much in severity, frequency, and persistence. Secondly, there were always symptoms of disordered digestion. Thirdly, there was progressive emaciation. Dr. Thin distinguished two types of the disease: One, common in the eastern archipelago, and one more common in India. In the first, mouth, tongue, and throat symptoms were early prominent, and the most pronounced and disagreeable symptoms. In the second, copious watery stools were the prominent symptoms, those previously mentioned not manifesting themselves till later in the disease. The pathology of the disease was indefinite, but there was a special connective-tissue development, a true sclerosis of the submucosa, which was specially characteristic in the ileum. The ætiology was unknown. The author considered the disease specific in character, and its best soil for development in the ileum. As to treatment, Dr. Thin said that it might be starved out by limiting the patient's diet, and it appeared not to grow if the food consisted exclusively of milk. An exclusive diet of meat juice seemed in some cases to lead to its annihilation, possibly due to the fact that a strict meat-juice diet, to the extent to which it was practicable, was largely a starvation diet. Milk was not the only nutriment in which it did not thrive. He had previously referred to cases in which strawberries were not only well borne, but were curative in this disease, and possibly other fruits might have similar qualities.

The author then described a remarkable case: The patient was a lady under the care of Dr. Playfair (Bromley), with whom he saw her. Her anæmia, wasting, and debility were extreme, and the prognosis he considered bad. She had had the disease for a period of years. Among other treatments, milk treatment appeared to have had a thorough trial, and apparently little new was left to suggest. That little consisted in keeping the room night and day at a temperature of 64° F., and in never allowing the patient to be removed from under the bedclothes, on the theory that the skin should be kept constantly warm to diminish congestion of the mucous membrane. On this treatment the diarrhœa ceased, but the quantity of milk taken was too small to render recovery possible. After six weeks of this very limited milk diet, at her own instance she began to take strawberries, steadily increasing the quantity. With an increasing amount of strawberries she was able to take more milk, until she ended in taking a large quantity of milk and several pounds of strawberries a day. She made an excellent recovery, became healthy and strong, and could now eat ordinary food without bad consequences. Dr. Thin's theory of this and similar cases was that, whatever the cause of the disease might be, it did not live on the strawberry juice, and that a diet of strawberries and milk starved it out.

The Detection of the Morphine Habit.—The *Atlanta Journal-Record of Medicine* for October cites from the *Medical and Surgical Bulletin* of uncertain date the following method of detecting morphine in the urine of suspected subjects of the morphine habit: "Collect about twenty ounces of urine from the suspected individual. If it has not an acid reaction, acidulate with dilute hydrochloric acid until blue litmus is reddened by it. Concentrate to about three ounces, and let it stand in a cool place for twelve hours, then filter. To the filtrate add sufficient sodium carbonate to render it alkaline; let it stand for twelve hours, filter and collect the precipitate, and wash this with distilled water made slightly alkaline with sodium carbonate, and dry. Digest the dried precipitate with pure alcohol at a gentle heat, and filter; evaporate the filtrate to dryness, dissolve the residue with dilute sulphuric acid, and test for morphine by the iodic-acid test, or other well-known tests. By this method morphine can be obtained, says the author (*sic*), from persons taking but very minute amounts of the drug."

Favus of the Penis.—Glück (*Archiv für Dermatologie und Syphilis*, Band xlvii, Heft 3; *University Medical Magazine*, October) reports the following unusual case: Upon the side of the penis of a man, thirty-three years old, and upon the upper portion of the external surface of the foreskin, were several lentil- to bean-sized, round and oval, dry, sulphur-yellow crusts with elevated edges and depressed centres. Upon the inner surface of the foreskin and the corresponding part of the sulcus and corona were similar crusts, which extended along the side of the glans forward to the meatus, which they surrounded. No trace of the disease was to be found elsewhere upon the body. Upon microscopical examination the crusts were found to present an almost pure culture of the achorion fungus. The author regards this case as a new proof of the correctness of Pick's view, that favus is not confined to parts provided with hair.

Upon this the abstractor comments as follows: Hardy has quoted Bazin as having seen a case of favus of the glans penis. In this case, however, with the aid of a lens, a minute hair was seen piercing the centre of the favus crust.

Unilateral Diffuse Hypertrophy of the Breast.—Dr. Frank E. Bunts (*Cleveland Medical Gazette*, September) reports the case of a girl, aged nineteen years, in whom the left breast was enormously hypertrophied, the right being, on the contrary, somewhat atrophied. The enlargement commenced at the age of fifteen years. Dr. Bunts removed the breast, using the portion of integument below and including the nipple for the flap, and removing the entire breast and integument above the nipple together. When sutured this brought the nipple slightly higher than on the opposite side, but the flap, being somewhat redundant, contracted, and two years subsequently to the operation the nipple appeared in about the right place and there was very little disfigurement. The author considers this case as one of considerable rarity because of its diffuse instead of circumscribed hypertrophy, its being unilateral instead of bilateral, and because, while the growth developed during the period of active development of the generative organs, there was never any disturbance or irregularity at any time traceable to those organs which might have accounted for the unusual development of the breast.

Disturbances of Sensibility in Parkinson's Disease.—M. A. Palmieri and S. Arnaud (*Clinica medica italiana*, 1899, No. 6; *Settimana medica*, September 9th), notwithstanding the common denial by pathologists, including Parkinson himself, of the existence of objective sensory disturbances in subjects of Parkinson's disease, instituted observations in seven cases with the result of demonstrating that there were always disturbances of the sense of pain, but rarely of the other forms of sensibility, tactile, thermal, etc. He arrived at the following conclusions: 1. In the subjects of Parkinson's disease there is nearly constantly a diminished pain sensibility, at times very marked in the region affected by clonic spasms. 2. The hypalgesia is at times diffused, at times in detached areas, and is generally most marked at the extremities of the limbs. 3. Perhaps in the very first stages of the lesion there is hyperalgesia, which gives place to hypalgesia, and the latter grows more and more decided as the disease advances.

Results of the Open-air Treatment of Phthisis.—Dr. A. W. Philip (*West London Medical Journal*, October), writing in a symposium on British Sanatoria for the Open-air Treatment of Tuberculosis, sums up the results as follows:

"(*a*) In the first place, it is right to emphasize that during prolonged experience of this treatment I have not witnessed one untoward incident resulting therefrom. During the years which have elapsed since the hospital was opened there has not been a single day on which some of the patients have not been outside, and on most days almost all have been able to be out for a time. Rain and snow have not been allowed to form a contraindication. In such weather the patients are suitably shod and mantled, the shoes and mackintoshes being put on and thrown off in an outer hall.

"(*b*) A remarkable change of type of disease occurs speedily. Within three or four days the patient's color begins to manifest a healthier aspect. His appetite rapidly picks up, so that patients whose chief complaint was anorexia may within ten days or so eat voraciously. Night sweats disappear almost at once. Again and again I have admitted patients either from their own homes or from other hospitals who required to have their clothing changed several times throughout the night, and within a week's time those patients have ceased to manifest this distressing symptom, their night rest being simultaneously benefited. So uncommon is this symptom that, while I was anxious to accede to the request of one of my colleagues that he might have an opportunity of conducting some observations thereon, he had to go elsewhere in order to obtain sufficient material. Similarly, the temperature in most cases, which may have been both irregular and high previous to admission, tends gradually to assume the normal, or rather the slightly subnormal, which is the rule in many cases of latent tuberculosis. In like manner the cough quickly lessens, and finally disappears. It has been frequently remarked to me by visitors going round the wards how seldom the patients coughed. The body weight, too, and general conditions show corresponding improvement. An increase of fourteen to sixteen pounds has not been an uncommon incident during the comparatively short stay which a hospital with limited accommodation for poor patients permits.

"(*c*) The educative value of such residence can not be overestimated. The patients learn unconsciously how to treat themselves. They realize how practically true it is that open air, day and night, and sunlight, are their best friends, and that attention to hygienic measures can be their salvation. They thus become on their discharge from the hospital apostles of the new faith, and one frequently hears of the results of their teaching in their own homes.

"(*d*) In so chronic and treacherous a disease it is not wise to speak confidently of cures effected. The proportion of patients, however, who have left the hospital and maintained for years continuously good health, and been able to resume regular work, perhaps with a change of employment, is a large one. The list includes cases where both lungs and larynx were involved on admission. On the other hand, disappointments are frequent. Some of the most promising cases have returned on our hands or have gradually fallen back elsewhere. The proportion of these cases is larger than it should be, from causes over which we have meantime no control. In the first place, our patients are chiefly in poor circumstances, and are compelled too rapidly to resume the conditions of life which induced the disease. And secondly, the resources of the institution are so limited, and the demands so enormous, that the patient's stay in hospital has often to be curtailed when it ought to be prolonged.

"(*e*) The course of treatment is a pleasant one. There are none of the drawbacks which have sometimes been portrayed in relation to hospitals for consumptive patients. Far from being a gloomy place, our hospital is one of the brightest of households. The only dull day in most cases is the day when the patient's discharge is signed."

The Function of the Rectum as a Reservoir.—Dr. J. J. Charles (*British Medical Journal*, September 30th), professor of anatomy and physiology, Queen's College, Cork, says that a difference of opinion exists as to the function of the rectum. Some, as Stewart, maintain that the rectum is empty and at rest except during defæcation, when the entrance of fæces excites the nervous process, and causes in consciousness the desire to defæcate. The rectum, however, may be found full of fæces—sometimes even to the anus—in the dissecting room; and surgeons, such as Mr. Treves and Mr. Allingham, have informed him that they frequently find it in this distended state during life. Besides, the existence and arrangement of Houston's valves in the rectum and the strength of the internal sphincter indicate that the rectum—at least its suprasphincteric portion—serves as a reservoir, and not merely as a passage for the fæces. Accepting this view, the accumulation of fæces—sometimes, no doubt, of a more irritating nature than at others—starts the reflex action, which, as a rule, is aided by voluntary action. The fact that defæcation can take place when the lower part of the spinal cord has been removed, as in Goltz's and Ewald's experiments, would lead us to believe that the nervous mechanism may to a certain extent be local. It has been affirmed that defæcation, like the daily variations in the number of respirations and in the temperature of the body, may be a process which tends to take place in a cycle. The effect of habit in causing defæcation to occur regularly at the same time supports this idea.

Perforation of the Stomach in an Infant Seven Weeks Old.—Dr. T. M. Rotch (*American Journal of the Medical Sciences*, October) reports the case of a male infant, aged seven weeks, admitted to the Infants' Hospital, February 2, 1899. The infant had been well until four days previously, when his abdomen became suddenly much distended and he appeared to suffer considerable pain. After the first twenty-four hours the bowels had moved regularly and the pain had lessened. Vomiting had begun about eight hours before entering the hospital.

The infant was well developed and fairly nourished. The facial expression was rather drawn, the eyes dull, and the abdomen much distended and tympanitic, excepting that there were very slight areas of dullness in both inguinal regions. A few coils of distended intestine could be detected. The pulse was 165, the temperature 101° F., and the respirations 35. The diagnosis of peritonitis was made, and it was decided to operate at once. Ether was given, and an incision four inches long was made in the median line, and about two drachms of slightly flaky serum exuded. The vessels of the much-distended small intestine, and especially of the mesentery, were found to be very much injected. A few flakes of lymph were found adhering to the intestines. The intestine was thoroughly examined, practically through its whole extent, without any cause for the peritonitis being discovered. The abdominal cavity was irrigated and the wound closed. Three days later the infant died.

At the autopsy, eighteen hours after death, the body was that of a well-developed infant; rigor mortis was present. There was an incised wound about six centimetres long in the median line of the abdomen just below the umbilicus. This was partly closed at the ends by interrupted sutures, while from the middle projected a wick of gauze. This reached well down to the root of the mesentery, and was surrounded by coils of intestine, which were glued to the abdominal wall and to each other. There was no free fluid in the pocket drained by the wick. The adhesions between the coils of intestine could be easily separated, and lying between them was a little opaque, turbid serum in which were occasional flakes of lymph. The head was not opened.

The lungs were of normal color, well retracted, with a few dark, slightly depressed areas. The pleural surface was smooth and the cavities normal. The heart was normal and weighed sixty-five grammes.

The stomach was quite extensively adherent to the diaphragm along its anterior surface, and on carefully separating the fibrinous adhesions one point was noticed where the exudation was a little thicker and more adherent. Imbedded in this, and apparently coming from the wall of the stomach, was a minute thread about two or three millimetres in length. There was also here a little more injection than elsewhere.

On opening the stomach it was found to be generally normal, with the exception of a minute loss of substance surrounded by a reddened zone opposite the place of greatest exudation on the outside. This portion of the wall of the stomach was cut out, and after hardening in Zenker's fluid was mounted in paraffin and a series of sections cut. As the result of the studies of these it appeared that there was an oblique passage from within outward through the entire thickness of the wall, and in it lay a foreign body made up of a bundle of very small, irregularly rounded, structureless fibres, staining intensely with aniline dyes, but not with hæmatoxylin.

The edges of the mucosa were slightly rounded over from within outward, as if the original lesion had been in that direction. The cavity in the middle of the coat was partly filled with leucocytes and round cells surrounding the fibres, but not infiltrating among them, and nowhere did the foreign body project into the interior of the stomach.

After staining by Gram's method, large numbers of small rod and spherical bacteria were found on the peritoneal surface close to the thread. No cultures were taken at the autopsy, on account of the lapse of time after death. The liver was normal in appearance and weighed a hundred and sixty-five grammes. The kidneys were pale, and together weighed thirty-five grammes. The spleen was dark red and weighed fifteen grammes. The pancreas, adrenals, and the genital organs presented nothing remarkable.

The chief interest in the case centres in the perforation and its cause. That the general peritonitis had started from this point there was little doubt, as the evidences of the inflammation were most extensive here and the exudation was thicker and firmer. It is highly improbable that this could have been anything introduced at the time of the operation, for to have produced the lesions would have required several days, as shown by the thinned and somewhat everted mucosa. How the perforation took place from the inside is also hard to understand if this foreign body is nothing but a bit of silk thread, as its structure would indicate. It is suggested that possibly a threaded needle was swallowed, and had perforated, leaving a bit of silk behind, and the needle was overlooked among the coils of intestines. It certainly was not thought of at the time of the autopsy, and no especial search was made for it. Another suggestion is that it was a case of follicular ulceration, and the bit of thread had worked its way into that. But the loss of substance in the mucosa is rather less in extent than deeper in, and there is no evidence of any inflammation in the neighborhood that would warrant the assumption of such a process. We are left, therefore, with the simple fact that the local lesions are all in the immediate neighborhood of the foreign body, and that the perforation and the secondary fatal peritonitis must be referred to it.

Adherence of Membrane to the Cervix an Important Cause of Tardy Dilatation of the Cervix.—Löhlein (*Centralblatt für Gynäkologie*, No. 19; *International Medical Magazine*, September) records a number of cases in which this condition has been the cause of delayed first stage of labor. This adherence is due to a cervical or corporeal endometritis. He advises inserting the finger and detaching the membranes from the wall of the cervix and, if necessary, rupturing them. The adherence of the lower pole of the ovum to the cervix delays the unfolding of the cervix and prevents the descent of the bag of waters, and the consequent dilatation of the internal os.

Further Report on Antiphthisic Serum T. R. (Fisch) in Tuberculosis.—Dr. Mansfield Holmes (*Journal of the American Medical Association*, October 7th) supplements his recent reports on Serum Therapy in Tuberculosis, published in the *New York Medical Journal*, March 25th to April 8th, and in the *Journal of the American Medical Association* for April 1st, with a further paper presented to the meeting of the American Medical Association at Columbus. Dr. Holmes, for convenience of description, arranges the cases into two groups: 1. Those in the earliest incipient stage which had not advanced to the stage of expectoration in which bacilli could be found. 2. Those in the stage of expectoration with bacilli present.

There were nineteen cases belonging to the first class. These cases gave the usual symptoms belonging to the incipient stage. The majority of them gave a strong tuberculous family history and had been sent to Colorado by their physicians. The tuberculin test was made in thirteen members of this class, followed by reactions. The remaining six cases had symptoms equally pronounced, but were not subjected to the tuberculin test. Without a single exception each case belonging to the first group made rapid improvement under the serum treatment. At the close of the treatment they were again subjected to the "O. T." test and failed to react. Furthermore, there had been but one patient of this group that relapsed after improving under the serum, and he had remained in good health for nine months before relapsing. Treatment was then resumed and continued for five months, during which time all symptoms disappeared. At the expiration of this time the tuberculin test was given without reaction. The patient was now in excellent health.

The second class embraced thirty-one cases. Of this number, eleven were in the incipient stage and twenty were advanced cases. Of the eleven belonging to the early-stage class, four were cured, the bacilli disappearing completely. Five cases made distinct improvement, but the serum was discontinued too soon. Two cases were improving and the treatment was being continued. Of the twenty advanced cases, four made distinct improvement. Seven improved slightly, but subsequently failed. Three made no improvement, and six died. He would state, however, that one of the deaths was due to pneumonia, the result of exposure, involving the unaffected lung, and also that many of the cases included were under the serum treatment but a short time. Experience had proved that the best effects might be expected only after an extended use of the serum. In many of the advanced cases the serum was discontinued as soon as he became convinced that nothing could be expected from it.

Until recently he had made no effort to select cases, as he wished to ascertain from actual experience the advantages to be expected from the treatment in the various stages of the disease. It was a well-known fact that the majority of persons in the early stage of the disease were not easy to convince of the necessity of supplementing the climate of Colorado with treatment. But when patients tested climate and found it insufficient to bring about a cure, they were ready to accept almost any treatment that was recommended to them. Hence, there was always an abundance of those patients in the last stage of the disease willing to try almost any serum treatment. He regretted to state that in almost all advanced cases the benefit had been slight. It had possibly prolonged life. But in the well-advanced cases he doubted if the serum was able to even prolong life to any great extent.

Three of the foregoing cases were of long standing and were in the last stage of the disease, with extensive involvement of tissues, when beginning the serum. This was early in his experience with serum, and he advised its use as a last resort. Each of these patients continued its daily use for five months. At the time of beginning the serum he believed they had but a few weeks to live. Each patient made slow but distinct progress. It might also be of interest to note that from twelve to fifteen months had elapsed since stopping the treatment, and these three patients were alive to-day. Two of this number were now in moderately fair health—the disease having assumed a chronic form—but were by no means cured. The third patient relapsed about nine months after stopping the treatment, the result of his own imprudence, and was now in a very low condition. He mentioned these three cases, not for the purpose of showing that the serum was capable of curing cases after they reached such an advanced stage of the disease, but to show that the disease might be temporarily checked and the lives of such persons indefinitely prolonged.

Dr. Holmes says that: 1. In well-advanced cases the serum invariably causes an elevation of temperature, which usually occurs from three to six hours after its administration. The temperature at such times frequently reaches 100° F. to 104° F., but remains high only for a short period. At first he was in doubt as to the cause of this marked elevation of temperature. It was a question as to whether it was due to the serum or the disease. He therefore discontinued the use of the serum for a short period with a few patients who experienced the high temperature following the dose, and in each case the temperature dropped to normal or close to normal. He is unable to account for this fever in advanced cases unless it is due to the cumulative action of the serum, with a greater susceptibility of the advanced cases. 2. We also experience, from a prolonged use of the serum, a more or less extensive infiltration of the areas used for injections. These areas do not become tender or painful, but remain more or less infiltrated. In such cases the skin is not readily elevated from the body; the subcutaneous cellular tissues, being the seat of the infiltration, bind the skin more closely to the deeper tissues of the body. 3. Long and persistent use of the serum produces depressing effects, which are best relieved by a short interval of rest. The treatment should, however, be resumed again with small doses. 4. Sooner or later he has found that the lymphatic glands become tender and enlarged from the use of the serum. In some cases this is experienced within three or four days. In the majority of cases, however, it occurs at the end of a week or ten days. In a few cases this is not experienced until much later, or until the dose is increased.

In cases experiencing good effects of the serum, there is invariably an increase in the percentage of young lymphocytes of the blood. On the other hand, in rapidly declining tuberculous cases, he has observed a progressive decrease in the percentage of young lymphocytes. He has found no exception to these rules.

Addison's Disease in a Young Girl.—M. Haushalter (*Gazette hebdomadaire de médecine et de chirurgie*, September 14th) recently exhibited to the Medical Society of Nancy a young girl, ten years of age, affected with Addison's disease. The affection was of about two months' standing and was marked by lassitude, melancholy, and an abnormal pigmentation of the face, neck, and back.

Book Notices.

A Treatise on Surgery. By American Authors. For Students and Practitioners of Surgery and Medicine. Edited by ROSWELL PARK, A. M., M. D., Professor of the Principles and Practice of Surgery and of Clinical Surgery in the Medical Department of the University of Buffalo, etc. Condensed Edition, with Revisions. With Six Hundred and Twenty-five Engravings and Thirty-seven Full-page Plates in Colors and Monochrome. New York and Philadelphia: Lea Brothers & Co., 1899. Pp. 5 to 1262.

THOSE of us who have the good fortune to possess the unabridged edition of this excellent work (in two volumes) can readily appreciate the great value of the present condensed and revised treatise, presenting as it does all the essential features of the larger work, with, moreover, the further advantages of a recent revision and the addition of a complete series of illustrations, as well as a number of beautifully executed plates, some of them in colors, which have been expressly prepared for this volume.

We are very much pleased to note the distinction made by the editor in the opening chapter between hyperæmia due to extrinsic disturbances, such, for instance, as injury, and inflammation (infection) due to intrinsic factors—namely, micro-organisms. Their distinction is necessary before proper treatment can be adopted. Especially commendable is the chapter on the surgical pathology of the blood, which in the past has found but little space in the average surgical text-book. The determination of the percentage of hæmoglobin is of special value; as the author says, "a prognostic significance often attaches to the accurate estimation of the hæmoglobin at intervals after removal of malignant tumors."

The book has been conveniently divided into six parts, and they cover the subjects of surgical pathology, surgical diseases, surgical principles and methods and minor surgical procedure, injury and repair, surgical affections of the tissue system, and special, or regional, surgery. The present work maintains the high standard already established by the former edition, and requires no further praise or comment.

Practical Anatomy: including a Special Section on the Fundamental Principles of Anatomy. Edited by W. T. ECKLEY, M. D., Professor of Anatomy in the College of Physicians and Surgeons, University of Illinois, etc., and Mrs. CORINNE BUFORD ECKLEY, Instructor in Anatomy in the Northwestern University Dental School, etc. With Three Hundred and Forty-seven Illustrations, many of which are in Colors. Philadelphia: P. Blakiston's Sons & Co., 1899. Pp. xii–9 to 485. [Price, $3.50.]

THIS work is not intended to cover the whole field of the vast subject of anatomy, but to present to the student and practitioner the general anatomy of the body only, leaving the special regions, such as the ear and eye, to works of greater scope. The book, therefore, will fill the particular field of a dissecting-room guide. The student will find it of special value, and the frequent review quizzes which have been made a special feature in the work will materially aid him in fixing firmly in his mind the ground already traversed. Again, the introductory chapter, on the rules, principles, and generalizations which underlie the science of anatomy, will be found a great help in properly understanding the formation and meaning of anatomical terms, together with the rationale of naming muscles.

The authors, as they state in their preface, have drawn freely from Morris's *Human Anatomy*, not only for the material of their text, but for a number of illustrations as well. Of the illustrations, sixty-six are original drawings, mostly diagrammatic. The work combines the usefulness of both text-book and quiz compend, and will therefore directly appeal to the student, whose path will be made easier by the combined efforts of the authors.

Diseases of Children. A Manual for Students and Practitioners. By GEORGE M. TUTTLE, M. D., Attending Physician to St. Luke's Hospital, etc. Series edited by BERN B. GALLAUDET, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York, etc. Illustrated with Five Plates in Colors and Monochrome. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. 6 to 17 to 386.

THE author has prepared this manual of pædiatrics especially for the use of students, and has devoted his efforts principally to infant physiology and artificial feeding. The pathology and treatment, however, have not been overlooked, but all the essential information concerning them has been given. For fuller treatises on the subjects the reader is referred to larger works.

The book opens with a description of the normal infant at birth, and describes the varying conditions of its later development. Diseases of childhood follow, and these subjects are not only arranged in a systematic form, but show, besides, careful selection of material. Each chapter is lucidly yet succinctly written, thus greatly adding to the attractions of the book.

The writer concludes with a chapter on infectious diseases, including the exanthemata. In this we find most of the colored plates, which include a very accurate drawing of Koplik's spots, and one of a similar variety seen in aphthous stomatitis, with which they are sometimes confounded.

The printer's and bookmaker's work is excellent, and we have in this volume an attractive addition to this series of pocket text-books.

BOOKS, ETC., RECEIVED.

A Text-book of the Practice of Medicine. By James M. Anders, M. D., Ph. D., LL. D., Professor of the Practice of Medicine and of Clinical Medicine in the Medico-chirurgical College, Philadelphia, etc. Illustrated. Third Edition, revised. Philadelphia: W. B. Saunders, 1899. Pp. 1292. [Price, $5.50.]

A Text-book of Materia Medica, Therapeutics, and Pharmacology. By George Frank Butler, Ph. G., M. D., Professor of Materia Medica and Clinical Medicine in the College of Physicians and Surgeons, Medical Department of the University of Illinois, etc. Third Edition, thoroughly revised. Philadelphia: W. B. Saunders, 1899. Pp. 9 to 874. [Price, $4.]

Essentials of Diseases of the Skin, including the Syphilodermata. Arranged in the Form of Questions and Answers, prepared especially for Students of Medicine. By Henry W. Stelwagon, M. D., Clinical Professor of Dermatology in the Jefferson Medical College, Philadelphia, etc. Fourth Edition, thoroughly revised. Illustrated. Philadelphia: W. B. Saunders, 1899. Pp. 11 to 276. [Price, $1.]

Essentials of Medical Chemistry, Organic and Inorganic. Containing also Questions of Medical Physics, Chemical Philosophy, Analytical Processes, Toxicology, etc., prepared especially for Students of Medicine. By Lawrence Wolff, M. D., Demonstrator of Chemistry, Jefferson Medical College, Philadelphia, etc. Fifth edition, thoroughly revised by Smith Ely Jelliffe, M. D., Ph. D., Professor of Pharmacognosy, College of Pharmacy of the City of New York, etc. Philadelphia: W. B. Saunders, 1899. Pp. 11 to 222. [Price, $1.]

A Contribution to the Surgery of Fractures and Dislocations of the Upper Extremity. Based upon an Analysis of about Seven Hundred Consecutive Cases observed at the Manchester Royal Infirmary. By J. E. Platt, M. S. (Lond.), F. R. C. S., Honorary Surgeon to the Hulme Dispensary, etc. Illustrated by Twenty-three Drawings and Skiagrams. London: H. K. Lewis, 1899. Pp. x–225. [Price, 10*s*.]

The Logic of Figures, or Comparative Results of Homœopathic and Other Treatment. Edited by Thomas Lindsley Bradford, M. D. Philadelphia: Boericke & Tafel, 1900. Pp. xiii–11 to 212.

La Lutte contre la phthisie. Fumées et poussières de Paris, spécialement dans le IXe arrondissement. Conférence de la Société médicale du IXe arrondissement. Par le Docteur Paul Berthod.

The Twenty-sixth Regular Report of the Medical Staff of St. Francis's Hospital. For the Year 1898.

The Record of Four Years (1895–'99) in an Exclusively Electro-therapeutic Clinic. Report of the New York Electro-therapeutic Clinic and Laboratory. By Margaret A. Cleaves, M. D., of New York.

Die Röntgenstrahlen und ihre Anwendung in der Medicin. Vortrag gehalten den 28. December 1898. Von Dr. Leopold Freund Secundärarzt im Wiener allgemeinen Krankenhause. Mit 4 Tafeln. Wien, 1899. Pp. 32.

The Treatment of Nasal Stenosis due to Defective Sæpta, and the Treatment of Hay Fever. By Beaman Douglass, M. D. [Reprinted from the *Laryngoscope.*]

Are the Dangers of the Menopause Natural or Acquired? A Physiological Study. By Anna M. Galbraith, M. D. [Reprinted from the *American Gynæcological and Obstetrical Journal.*]

Epiphora, or the Watery Eye: its Complications, Ætiology, and Management. By J. H. Woodward, M. D. [Reprinted from the *Medical Record.*]

The Pauper Inebriate—His Legal Status, Care, and Control. By L. D. Mason, M. D., of Brooklyn. [Reprinted from the *Quarterly Journal of Inebriety.*]

Accessory Thyreoid Tumors at the Base of the Tongue. By Jacob E. Schadle, M. D., of St. Paul. [Reprinted from the *Journal of the American Medical Association.*]

Second Report of the Committee of Inspection appointed by the Executive Committee of the Post-graduate Medical School to review the Experiments of Dr. John F. Russell in the Treatment of Pulmonary Tuberculosis at the Post-Graduate Hospital. [Reprinted from the *Post-Graduate.*]

A Case of Polymorphism. By Henry A. Robbins, M. D., of Washington. [Reprinted from the *Maryland Medical Journal.*]

The Mercurial Vapor Bath. By Henry A. Robbins, M. D. [Reprinted from the *Maryland Medical Journal.*]

Die Radiotherapie der Hautkrankheiten. Von Dr. Leopold Freund, in Wien. [Separatabdruck aus der *Wiener klinische Wochenschrift.*]

Purulent Encephalitis and Cerebral Abscess in the Newborn due to Infection through the Umbilicus. By Guy Hinsdale, M. D. [Reprinted from the *American Journal of the Medical Sciences.*]

Miscellany.

The "Cleavage" between Doctors and the World at Large.—The *British Medical Journal* for October 14th has the following admirable remarks in an editorial on Medical Education:

"The *Spectator,* in an article on introductory addresses, expresses regret at their tone: 'All of them are full of thought and penetrated with philanthropic feeling, but we could wish to have seen more stress laid on the advantage of liberal culture to the whole profession.' While it is admitted that the members of the medical profession have shared in the general advance of education, it is asserted that 'the rank and file still need a caution that power of thought is as valuable to a physician as experience, and that if he has to "mix his medicine with brains," the brains must be cultivated as well as the faculty of perception. The tendency is still toward a concentration of thought upon science, and especially science as applied to the cure of disease, which makes of doctors more of a caste than the members of any other profession, except the navy.'

"It may be a surprise to many of us to be told that medicine makes so distinct a mark on a man; but it is a good thing sometimes to see ourselves as others see us, and in this case the eyes are certainly not unfriendly. But the writer goes further, and asserts that there is 'a certain latent cleavage between doctors and other educated men which is most injurious to both—to the doctor because it thins alike his interests and his knowledge, to the others because they fail in the sympathy with medicine, which if it existed would double the doctors' beneficial influence.' In support of this assertion we are asked whether, when any epidemic is present, we do not find the difficulty of driving our ideas into the heads even of the educated almost maddening. There ought to be no such difficulty, and there would not be, we are told, were it not for 'a certain difference in ways of thinking, produced by a difference of culture, which we contend ought not to exist.' We have here the other side of the shield to that shown to us by Sir W. Gairdner in his address at Mason College, an address which we can not help suspecting the writer in the *Spectator* had not read.

"In the particular instance quoted it is open to us to retort that the difficulty is so great, not because the doctor has not learned the humanities, but because the other has not received even so much education in science as to be able to understand its point of view. The retort will not convince an opponent, but the contention finds support in the facts, as we believe them to be, first, that the difficulty referred to is less to-day than it was ten years ago, very much less than a generation ago; and secondly, that the difficulty is slight when the persons to be convinced are members of another scientific profession—chemists, for instance, or engineers.

"We can not admit that the medical profession is asking that aspirants for admission to it should have a less broad education than others, least of all on one of the grounds assigned, that 'the mind predisposed to scientific inquiry is not, as a rule, interested in the humanities, and therefore wastes time in studying them.' If such a ground has ever been taken, it certainly is not taken at the present day. It is true that we have had to let Greek go, mainly for the reason that so little was really learned either of Greek language or literature that it seemed wiser to give that little up in the hope of getting more Latin and modern languages. Whether the failure with Greek was due to want of time or to bad teaching who shall say? At any rate, the medical schools have to take the product of our secondary schools, where a love of the humanities ought to be instilled. We venture to say that the cause of the cleavage which our contemporary perceives dates from an earlier period than that at which university or technical teaching begins. In the case of the majority of boys intended for the medical profession the necessity for economy is a main consideration. A school must be chosen not because it is the best, but because it is within the parents' means. Therefore it is that we have ventured frequently to express in these pages the belief that the organization of secondary education which the government has taken in hand is a matter which very nearly concerns the medical profession. That others perceive a line of cleavage between the medical and other professions is, even though we may not agree with them that the cleavage is altogether due to a falling away on our side, a serious matter for our consideration, for it must tend to alienate the sympathies of those who ought to be our strongest allies, and so intensify the evil influences which at the present day are working to diminish the influence and the material rewards of the medical life."

How a Doctor Got a Clock.—The *Sun* recently reproduced the following from the *Philadelphia Record:*

"In the hallway of a Philadelphia doctor's house stands a fine example of a grandfather's clock, the possession of which the medical man owes entirely to a pinch of snuff. Some years ago the doctor in question set his heart upon such a timepiece and devoted two of his vacations to clock hunting. He visited many New England farmhouses without success, as old furniture has been pretty well gathered up by the dealers 'down East,' and then carried his quest into Delaware and Maryland, where he found many old clocks, but none of them for sale.

"He was about to return home disconsolate, when he was called into consultation over a patient dying of quinsy. The resources of medicine had been exhausted, when the Quaker City doctor bethought himself of an old snuffbox he had picked up during his wanderings, in which still lingered a modicum of snuff, pungent as of yore. With this powdered tobacco the doctor assailed the nostrils of the sick man, who, sneezing violently, broke the abscess in his throat that was choking him to death. Stimulants were administered and the sick man recovered.

"The Philadelphia doctor left the place the morning after this remarkable operation, but he had not been home a week before the grateful Marylander sent him a grandfather's clock, accompanied by a card upon which was written: 'This clock, which struck the hour of my birth, would have also marked the hour of my death if your skill and knowledge had not stayed the hand of the destroyer.'"

The First International Congress of Professional Medicine and Medical Deontology will be held in Paris from the 23d to the 28th of August, 1900, as a feature of the universal exposition of that year. The organization committee, of which M. L. Lereboullet is president and M. Jules Glover secretary-general, are issuing circulars of information and inquiry returnable before the 1st of July at the latest. The committee for the United States consists of Dr. G. H. Simmons, of Chicago, and Dr. H. S. Fuller, of Hartford; that for Canada, of Dr. J. G. Adami and Dr. Brodeur, of Montreal, and Dr. Persilien-Lachapelle, of Quebec.

The Treatment of the Abdominal Viscera through the Colon.—At the recent Chicago meeting of the Mississippi Valley Medical Association a paper entitled Further Observations on the Treatment of the Abdominal Viscera through the Colon was read by Dr. Fenton B. Turck, of Chicago, who first remarked that in a previous communication he had shown that small quantities of hot water at 131° F., introduced into the rectum, produced a marked effect on the heart and general circulation and especially on the abdominal organs. From these results it was evident, he said, that water of that temperature, introduced into the colon, had a greatly beneficial effect upon the abdominal viscera. Air, hot or cold, forced through a double tube into the colon and allowed to escape, also not only acted as a powerful stimulant to the abdominal viscera, but also set up a species of pneumatic gymnastics of the colon. In the introduction of hot water into the colon, the following procedure was adopted: The patient was placed in the dorsal posture upon a table specially devised for the purpose, which was so adjusted that the hips could be raised or lowered to any desired angle without discomfort. The solution employed was usually a normal salt solution when the therapeutic effects of heat and cold were desired. For other purposes mild antiseptic and medicated solutions might be employed. A soft-rubber tube, either single or double, with end and side openings, was introduced into the rectum as far as the sigmoid flexure. At first from six to eight ounces of water at a temperature of 122° F. was introduced. This was allowed to return through a tube into a conveniently placed receptacle, and the procedure was repeated. Every time the water was introduced its temperature was gradually raised until it reached 131° F.; in all from three to six quarts were needed. The patient was then allowed to evacuate the bowels. After that he received similar short treatment with water cooled to 35° or 40° F. The amount of water introduced and withdrawn and the duration of the treatment depended upon the character of the case.

For continuous irrigation the author's double-recurrent tube, or needle douche, had answered the purpose best in the hands of such men as Herschell, Treves, Gillespie, and others. By continuous irrigation a somewhat different action was obtainable. It was indicated in impaction, in acute gastro-enteritis, and during the early stages of appendicular inflammation.

The mucous membrane of the colon, like that of the throat, said Dr. Turck, seemed to be insensitive to comparatively high temperatures. The sensations within the colon, as to heat or cold, are not very definite. This might in part be due to the fact that the colon's sensibility had been so specialized for fæcal pressure as to cause it to lose its heat and cold reaction. That the treatment through the colon not only influenced the general circulation, but also stimulated the nerve actions of the abdominal viscera, and even the cerebral and spinal blood pressure, had long been known. The principle on which stimulant enemata had been employed in opium coma and allied conditions was a significant evidence of this. The ano-genital centre was notoriously the last to be affected in coma. Numerous instances had been reported in which death from opium coma and anæsthesia had been prevented by its stimulation. Furthermore, stimulation of the ganglia in the walls of the intestines could not fail to produce an effect on the spinal and cerebral centres. The increased action of the kidneys, liver, and other organs after the employment of colonic means was evidence in this direction. This was further shown by the fact that favorable results depended not upon the amount of water introduced, but upon the reaction between heat and cold. Large quantities of water introduced at one time were detrimental. Small quantities frequently repeated had markedly beneficial effects.

In colonic treatment by water or air, single- or double-recurrent tubes might be employed, according to the nature of the case. A tube with a single opening at the end was useless, however, for colonic lavage. One designed by the author consisted of a rubber tube about a yard long tapered at the end to an opening with beveled edges. There were four small perforations opposite each other in a row. Above these there was a large side opening with the edges so sunk as to prevent irritation in introducing the tube. The distance from the end of the tube to the uppermost opening was an inch and three quarters. This tube insured rapid return of the water injected, and there was no danger of suction of mucous membrane by siphonage. There was thus less danger of traumatism and of closure of the end of the tube by the mucous membrane or fæces. This tube insured a more equable distribution of the fluid introduced and was, therefore, of special value in topical applications and in the introduction of food. The double-recurrent tube, or "needle douche," would be found of special value when prolonged irrigation, or lavage, was desired. It had been found particularly useful in obstruction, from whatever cause, by Herschell and others. For the same reason it was of value in appendicular inflammation. The sprinkler at the end had proved useful in atony of the colon and where hot or cold water was needed as a spray or needle douche. In some cases a tube capable of passing the sigmoid flexure might be required. Most of the tubes made passed only to this flexure, but not beyond. The stiff tubes pressed upon the walls and so projected them as to give the false impression that the tube had passed through the flexure. The flexible tubes coiled up and produced the same impression. The author's colonic sound and irrigator could be passed along the colon even as far as the cæcum. It consisted of a double-curved metallic tube about sixteen inches in length, so made as to be passed through the sigmoid flexure. The tube served not only as a channel for the return of fluids injected, but also as a sheath for the introduction of a flexible hollow metallic cable. The distal end of the cable was surmounted by an olive-shaped perforated head. This served as a guide for passing the sound. As the cable was hollow, it might be employed for colonic distention. The position of the cable tip could be determined by palpation, especially if the cable was rotated. Since the cable was metallic, it could be employed as an electrode. Food given by this instrument might be distributed over a wide area. Great objection frequently existed to the introduction of water, especially hot water, into the colon. The hot water produced depression and even collapse at times. Warm water was particularly objectionable in this particular. Atony of the bowels from this cause, moreover, was very frequent. Distention of the bowels with water, subsequently withdrawn, would be of value in bowel gymnastics were it not for the fact that, since the water was slow to return and was not compressible, it caused undue distention.

The Centenary of the Birth of Vincent Priessnitz, says the *Progrès médical* for October 14th, was celebrated on that day in Gräfenberg, in Austrian Silesia, where there is the oldest hydrotherapeutic establishment in Europe. Without any medical learning, says our Paris contemporary, this simple peasant was the first to devise hydrotherapeutic methods which are in use everywhere to-day.

The Czar's Physicians.—According to the *Gazette médicale de Paris* for October 14th, no other sovereign in the world has so many physicians as the czar. They number twenty-seven and are all selected from among the medical celebrities of Russia. There is first a physician in chief; then come ten honorary physicians, three surgeons, and four honorary surgeons; two oculists, a chiropodist and honorary chiropodist; two court physicians and three specialists for the czarina.

Dr. Bingham's Case of Extirpation of the Stomach.—Dr. Charles B. Bingham, of San Francisco, writes to the *Boston Medical and Surgical Journal* for October

26th that the patient whose stomach he removed, as reported in that journal for May 5, 1898, now nearly twenty months since, has no sign of a recurrence of the disease (carcinoma). Dr. Bingham says that since she left the hospital there has been no restriction whatever as to her food. She eats what she pleases, she keeps house herself, visits her relatives and friends, takes her grandchildren to ride in the cars, and a short time ago, when the California troops came home from Manila, she witnessed the parade, her face beaming with pleasure. That evening the entire city was illuminated, and after driving around the streets she returned home at half-past one in the morning, feeling none the worse for the excitement. Last spring she weighed a hundred and ten pounds; she now weighs a hundred and twelve pounds—a slight gain during the summer. She is now in her sixty-eighth year.

An Important Legal Decision in Medical Consultations.—The *Boston Medical and Surgical Journal* for October 26th says that a case of considerable interest to medical men has recently been ordered to be retried by the appellate term of the supreme court. A bill of two homœopathic physicians, of seventy dollars for the attendant, and a hundred and seventy-five dollars for the consultant (who made six visits), in a case of fractured elbow, was disputed by the patient, who was left with a stiff joint and interposed with a counter claim for five hundred dollars damages for malpractice. In the sixth municipal court the full amount of the bill was awarded to the physicians. In giving his opinion in favor of reversal, Justice McLean, of the supreme court, concluded as follows: "There was no justification by custom or otherwise in plaintiff's employment of Dr. Roberts (the consultant) without a frank and full statement of the situation to the patient and the defendant (the patient's husband), and learning their wishes concerning the professional persons to be brought in. There can not be properly applied to the facts shown here any custom multiplying ordinary professional charges five or ten times under the shield of a layman's ignorance, because it is subversive of justice that charges should be so largely increased by a custom not made known at all to the patient or to her husband."

Enlargement of the Hospital Corps in the Philippines.—According to the *Army and Navy Journal* for October 28th, a further increase of the hospital corps in the Philippines is to be made to meet the requirements of a request from Colonel Woodhull, chief surgeon at Manila. Colonel Woodhull has cabled a request for twelve hospital stewards and thirty-two acting hospital stewards and seven hundred privates. This has been to some extent anticipated by the medical department. Colonel Woodhull has now thirty-eight stewards, ninety-three acting stewards, and one thousand and forty-one privates. There are four hospital stewards, ten acting stewards, and two hundred and sixty-eight privates now on the way to Manila, and each volunteer regiment leaving for the Philippines has fourteen hospital-corps men. Besides these, a hundred and twenty privates are now ready for departure, and will leave New York within a short time on the transports, going by the way of the Suez Canal.

The Death of the Right Reverend John Wale Hicks, M. D., is announced in the *British Medical Journal* for October 21st as having occurred on October 11th at Maseru, Basutoland. Dr. Hicks was the Anglican Bishop of Bloemfontein in the Orange Free State. He took the B. A. of the University of London in 1861, gaining honors in chemistry, physiology, and botany; the B. Sc. degree with honors in chemistry and other subjects in the following year, and the M. B. in 1863, when he obtained the gold medal in obstetric medicine. He became M. D. in 1864, and a member of the Royal College of Physicians of London in 1865. Subsequently he entered as a foundation scholar at Sidney Sussex College, Cambridge, and in 1870 he was placed senior in the natural-science tripos, and was at the same time second senior optime. He was demonstrator in chemistry in the university for eleven years, and became a fellow of his college in 1874. In 1871 he took the holy orders, and after holding several cures became dean of his college. In 1881 he was elected a fellow of the Royal College of Physicians. In 1892 he was consecrated Bishop of Bloemfontein. His diocese included the Orange Free State, Basutoland, Bechuanaland, and Griqualand West. In his early days he wrote a textbook on inorganic chemistry. He always retained his interest in the medical profession, and was present at one of the meetings of the Royal College of Physicians during his last visit to England. There are two other bishops who hold the M. D. degree, the Bishop of Rangoon and the Bishop of Likoma.

Antityphoid Vaccination in the Army.—According to the *Army and Navy Journal* for October 28th, an investigation is now being conducted by the medical officers of the army to determine the value of the discoveries made some time ago by British medical officers of a vaccine against typhoid fever. Surgeon-General Sternberg received this week several important letters on the subject from the director-general and the deputy director general of the British medical service. Director-General Jamison says that the vaccine has already been used among the British troops, and that it is proposed to inoculate all the British soldiers in India and those going to South Africa. A report sent to General Sternberg and published in the *British Medical Journal* says: "The advantages which are associated with the use of such vaccines are, first, that there is absolutely no risk of producing actual typhoid fever by our inoculations; second, that the vaccines may be handled and distributed through the post without incurring any risk of disseminating the germs of disease; third, that dead vaccines are probably less subject to undergo alterations in their strength than living vaccines." The experience with the vaccine in the British service has been that it is entirely free from danger. Constitutional symptoms, consisting of faintness and collapse, begin to manifest themselves generally in two or three hours. Attention is called by Director-General Jamison to the work of Professor Wright at Bangalore and Khartoum. Of eight officers at the latter place, six were inoculated and did not take the disease when it appeared; two declined to be inoculated and both had typhoid fever, one dying from it. Of a total of three thousand troops inoculated more than half never had the fever, while those that did had it only mildly. Professor Wright inoculated two hundred and fifty soldiers of the West Riding Regiment with excellent results. Of two hundred attendants at the Maidstone Hospital, ninety-five were inoculated and none contracted the fever during the epidemic there. Of those who refused to undergo the process nineteen suffered from the fever.

THE NEW YORK MEDICAL JOURNAL, NOVEMBER 18, 1899.

Original Communications.

AN INTERESTING CASE OF SYPHILITIC LEUCODERMA, OR DUNGEON SCURVY, CLOSELY SIMULATING ANÆSTHETIC MACULAR LEPROSY.

By JOSEPH A. SILVERMAN, PH. G., M. D.,
PHYSICIAN TO THE MISSION OF THE GOOD SAMARITAN, SAN FRANCISCO.

ON June 3, 1899, I was summoned to a hotel in this city to attend one of the guests. I found the patient, an elderly gentleman, extremely prostrated, and upon careful examination pronounced him to be suffering from a severe attack of capillary bronchitis. After attending him several days, I was informed by the manager of the hotel that he had heard from one of the patient's nurses that the patient was a leper, stopping in this city on his way to the leper colony in the Island of Molokai, Sandwich Islands, and asked me to verify the report. Upon questioning my patient in regard to this rumor, he promptly exhibited to me the suspicious spots, and asked me for a diagnosis. After a careful examination I made a diagnosis of syphilitic leucoderma, and finally persuaded the patient to relate to me his interesting history and to permit my assistant to take the inclosed photographs for publication. Thinking my professional brethren would be much interested in this rare and interesting case, I here append the history just as it was related to me by the patient, and without entering into any discussion of the case, in the hope that I shall hear, through your valuable journal, the opinion of any of my colleagues who have had any experience with such cases.

B. W. A., M. D., aged fifty-two years, occupation journalist, was born in England, and after graduating from an English medical college, entered the medical department of the British army, serving in nearly all parts of the world, but principally in India. Some years ago he gave up the practice of medicine and took up journalism as a means of livelihood. Family history very good. He had most of the diseases of childhood, making excellent recoveries. Had typhoid fever thirty-seven years ago, with relapse, but good convalescence. Yellow fever in Jamaica in 1871; no sequelæ. Contracted syphilis in 1873, true lues venera. Specific treatment taken at once and kept up for many years. Contracted morphine habit about twenty-five years ago, but asserts that he has been completely cured and has not taken any for twenty years, during which time he has been in excellent health, showing no signs of old age. In the winter of 1892 he suffered from a sharp attack of bronchitis, with high temperature, making a splendid recovery. In the winter of 1897 he went to Cuba on literary business, and in the month of May, 1898, his camp was attacked by insurgents, his partner killed and mutilated, and he himself severely beaten, kicked, his teeth knocked out and spine injured; he was left naked all night, supposed to be dead. The next day he was put naked into a dungeon with no flooring, no light, and very little air; there was no possibility of sitting down, as his legs were sunken in blue-black sewage of most offensive odor. He was badly bitten by vermin, spiders, etc. After being confined in this place eighty hours, without food or water, he was released. His condition was critical, having a high fever; his legs were badly swollen and ulcerated, and covered with varicose veins. The fever, with delirium, continued for weeks, during which time he was treated with hot fomentations to the legs, aromatics, and febrifuges by a native woman. Later he walked nearly three hundred miles, in short stages, to the coast, tramping by night, sleeping in the forests, with little clothing, but plenty of simple food such as fruits, fish, game, etc. After reaching the coast he sailed for England where he was very ill with symptoms of myelitis, which continued until November, 1898, and were accompanied by intense neuralgia of the cord and facial nerves. At this time there was some loss of special senses, insomnia, complete anorexia, and great nervous excitability. He was examined in London, Liverpool, Glasgow, and Paris for leprosy, but was declared by the best authorities to be suffering from leucoderma or scleroderma, formerly called dungeon scurvy, a condition very commonly found on prisoners in the early centuries confined in filthy dungeons, and so chained that they were obliged to stand or sit in one position. Some fifty cultures all showed negative results. He then came to the United States and was examined by a Chicago physician who diagnosticated his case as anæsthetic macular leprosy, non-contagious.

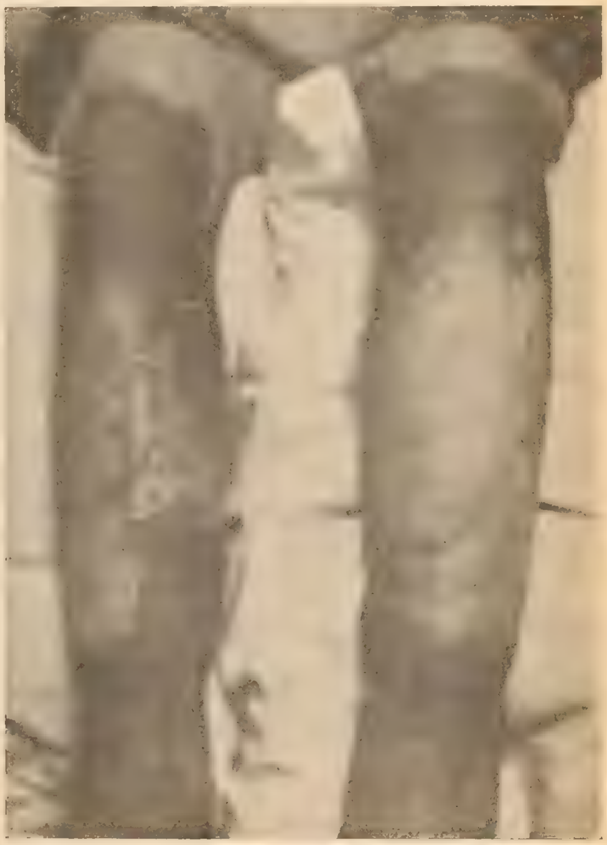

FIG. 1.

At present he is convalescing from his recent attack of capillary bronchitis and is extremely prostrated. He is anæmic, has no appetite, and suffers greatly from insomnia. The urine shows a specific gravity of 1.018 and some albumin. The leucoderma is confined to the legs only, which also show old specific pigmentations. There is no swelling and no anæsthesia, but hyperæsthesia of the soles of the feet, which he says is congenital. He is recovering very slowly, and is still quite weak, but all symptoms of the bronchitis have left him.

The photographs were taken on June 21, 1899, by my assistant, Mr. E. D. Starbird, and show very clearly the location of the disease on the legs and the character of the spots and lesions.

The dark spots are brown in color and very smooth, and the white spaces are small and covered by rough white scales. There is no œdema or swelling and no loss of sensation. The left leg is a trifle larger than the right and measures thirty-two centimetres in circumference at the knee, thirty-four centimetres at the calf, and twenty-four centimetres at the ankle.

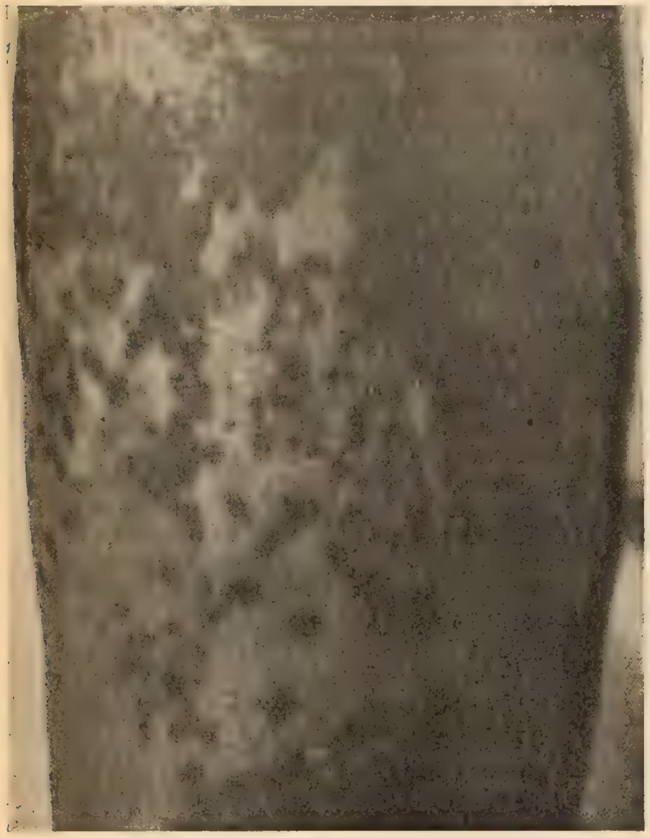

FIG. 2.

The photographs, while not very clear, show quite plainly the location of the disease upon the legs, the first photograph taking in all of the diseased area, the second one, being enlarged, showing the character of the lesion on the anterior surface of the right leg in the middle third.

975 POST STREET.

Erratum.—On page 727 of our issue for November 11th occurs a Miscellany paragraph on Dr. Bingham's Case of Extirpation of the Stomach. It should be Dr. Brigham.

AN UNUSUAL ACCIDENT.*

BY EWING MARSHALL, M. D.,
SURGEON TO THE TRAVELERS' INSURANCE CO.;
CHAIRMAN OF MEDICAL BOARD OF HOME FOR FRIENDLESS WOMEN;
PHYSICIAN IN CHARGE OF THE PROTESTANT EPISCOPAL ORPHANS' HOME,
LOUISVILLE, KY.

I WISH to show this patient, who has recovered from a most unusual accident and in the most satisfactory manner:

A. H. V., aged twelve years. On June 16, 1899, he was standing near a shafting. In turning round, the head of a bolt on the shafting caught in his pocket and tore his clothes off him. In trying to save himself, he thrust his right hand forward and the hand was caught between the belt and the pulley; the belt

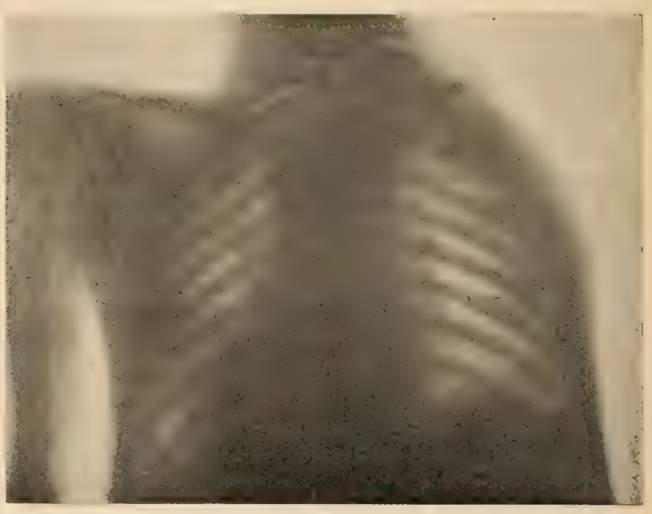

FIG. 1.

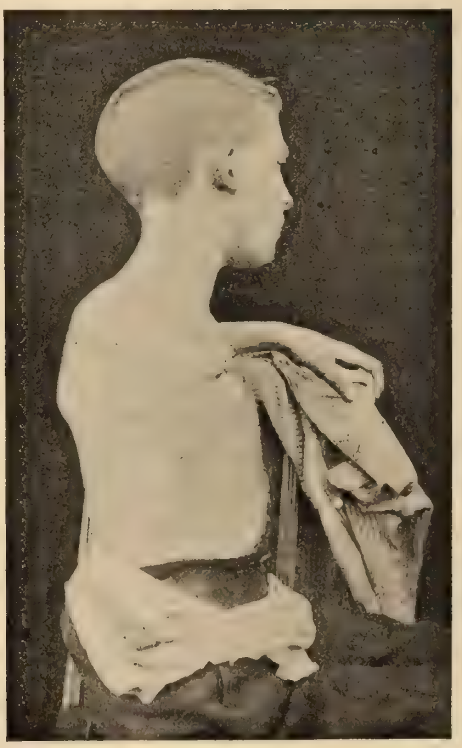

FIG. 2.

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* Reported at the meeting of the Clinical Society, July 11, 1899.

wound the hand and arm around the pulley, finally tearing away the arm, the scapula, and over half of the clavicle from the trunk; the entire shoulder and arm being left upon the field.

When the temporary dressing which had been put on by Dr. Allison was removed, I found a most alarming condition. Much of the crushed clavicle was remaining attached in the mangled tissues. With the splendid assistance of Dr. George W. Griffiths I removed all of the fragments, and then, when the parts were cleared of the mangled tissue, I found that the part of the clavicle remaining had a sharp end, which I removed with bone forceps, rounding it off so as to prevent its doing any injury. How well this was done is shown in the X-ray picture. The great vessel was torn in two just about where it crosses the first rib, or in the third part of the subclavian just before it changes its name to axillary. This I ligated, and it was the only vessel that I thought needed ligating. Right here I desire to say that neither as operator nor as assistant have I seen a case of secondary hæmorrhage. In my undergraduate days the bugaboo of secondary hæmorrhage was painted in such vivid terms that through the first ten years of my practice it was more or less of a nightmare as a possible sequela to each solution of continuity of any magnitude for which I was in any way responsible.

The parts were thoroughly cleansed with a bichloride solution, about 1 in 5,000. The silk used was put in boiling water, as were the instruments. I wish to take issue with most writers about the use of silk. I am confident, with all due respect to their experience, that silk exposed but a short time to boiling water is as safe as any ligature or suture material that has been given to the profession. In this case, when the dressings were undone on the fourth day and the iodoform strips that had been used for drainage were removed, there was little inflammation in the whole course of the suturing. When the stitches were taken out there was union through nearly the whole extent. The temperature never rose above 100.4° F., and only reached that upon two days. There were extensive abrasions about the face, body, and legs.

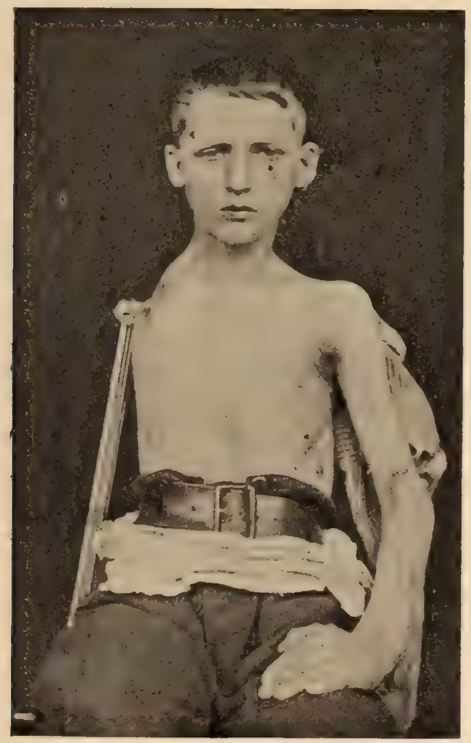

Fig. 3.

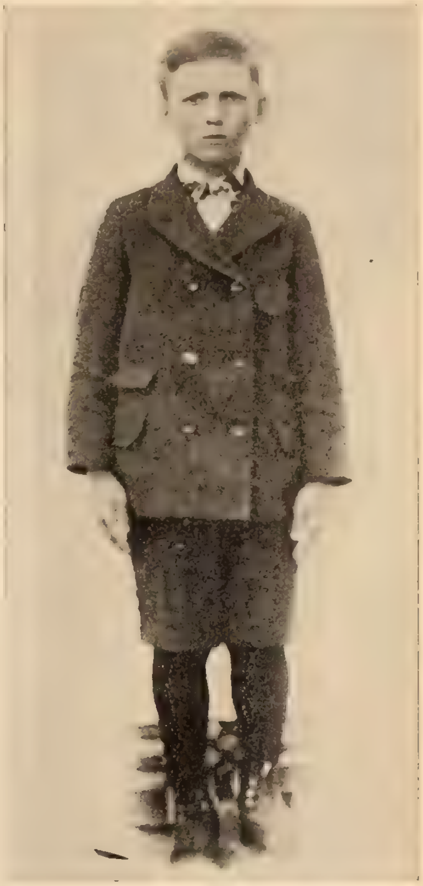

Fig. 4.

On the eighth day the patient sat up on the side of the bed. On the tenth day he walked across the floor. On July 6, 1899, the twentieth day after the accident, he came to my office in the street car, and then walked to Dr. Butler's office, a distance of nearly half a mile. Dr. Butler kindly took the Röntgen-ray picture which illustrates the case. You will see that the right scapula is entirely gone, and that only about a third of the right clavicle is remaining, and is pulled up by the sterno-cleido-mastoideus. The photographs were taken on the thirtieth day after the accident. Naturally, you would expect the head to lean to the left, as it receives only partial support from the right sterno-cleido-mastoideus, and no help from the right trapezius, since the parts of that muscle which aid in pulling the head forward and to the right were attached either to the scapula or to the part of the clavicle that has been removed, but the boy actually carries his head nearly vertical, letting it incline, if any, a little to the right. Fortunately, most of the tissues were removed that would have suffered by the ligation of the subclavian artery, and those remaining will easily be cared for by the anastomosing vessels.

Guaiaquin as a Substitute for Guaiacol.—The *Indépendance médicale* for August 30th remarks that guaiaquin ought to prove preferable to guaiacol on account of being free from the odor of the latter drug and free from its caustic property.

FURTHER EXPERIMENTAL RESEARCHES
ON THE
EFFECTS OF DIFFERENT ANÆSTHETICS ON THE KIDNEYS.*

BY ROBERT COLEMAN KEMP, M. D.

ABOUT a year ago, during the course of some experiments conducted by Dr. William H. Thomson and myself on the "effects of serum and antitoxine injections upon the circulation of the kidneys," we soon were made aware that the employment of sulphuric ether as an anæsthetic produced a specific effect of its own upon the renal circulation, which had to be taken into account before any trustworthy conclusions could be deduced as regards the particular effects of the administration of antitoxines. This action of ether was so often and so uniformly demonstrated as a derangement of the circulation of the kidneys themselves, without a corresponding disturbance of the general circulation as indicated by the blood pressure in the carotids, a condition of complete suppression of urine frequently occurring, that we concluded to institute a similar series of experiments upon the effects of other anæsthetics upon the kidneys. The methods employed and the results secured will presently be described. A no less careful observer than Dr. S. J. Meltzer, whose physiological researches are known to you all, has frequently noted in the course of his experiments that ether causes a marked interference with the kidney secretion, and often a complete suppression of urine. On the other hand, we also noted that chloroform caused but slight changes in the circulation of the kidney, that the volume of the organ was decreased and the secretion somewhat lessened—though complete suppression was never observed. This brought us at once to that long-standing dispute, which is continued among our most eminent practitioners, as to the respective values of ether and chloroform, including the question of the comparative effects produced on the kidneys by these anæsthetics.

As a preliminary, we might advert to certain physiological laws which regulate the secretion of the kidneys, as—

"First, other conditions remaining the same, the secretion of the kidney varies with the quantity of the blood flowing through it; the greater the quantity of blood, the greater the secretion.

"Second, the blood flow through the kidneys, and therefore their secretory activity, may be affected by conditions influencing general arterial pressure.

"The condition of the renal circulation, both in itself and relatively to the general circulation, has an important bearing on the subject."

It can be readily seen that it requires but slight disturbances to unbalance this delicate equilibrium.

Thus, from wetting the feet or by a sudden exposure to a draught of air, there may result an acute congestion of the kidneys; showing how interference with the maintenance of the proper relations between the renal and general circulation influences the renal secretion itself.

When, therefore, the statement is made that the anæsthetic is a rare factor in producing derangements of the kidney functions, or in aggravating those which already exist, it seems at least to run counter to the fact that there is no known anæsthetic, administered in any effective quantity, whatever the method of administration, which does not affect the renal circulation.

Yet some surgeons are very loath to acknowledge that their favorite anæsthetic is a factor, either chief or accessory, in the production of an unsuccessful issue. The partisan of ether has rarely if ever seen untoward results from this anæsthetic—personally, never a death; pneumonia seldom; renal effects seldom and not more frequently than with chloroform; uræmia, as a cause of death, seldom if ever. The chloroformist has never seen a death, though acknowledging occasionally rather a "close call"; recovery especially pleasant, as compared with ether; sequelæ practically none, contraindications rare.

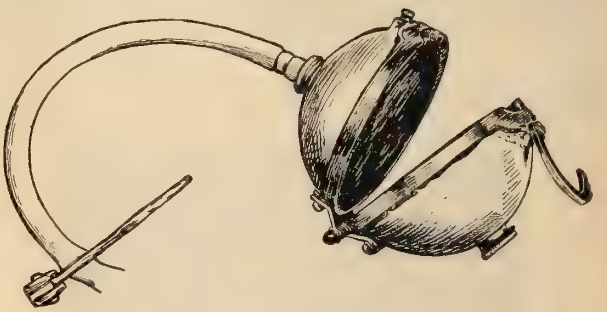

FIG. 1.—The oncometer.

From the exponent of "anæsthetic mixtures" we learn of an "ideal anæsthetic"; no disagreeable sensations described; and so on. But when, on the other hand, we carefully question the hospital internes, and especially those of from three to ten years ago, before the advent of the skilled anæsthetist, they will tell you of their own knowledge of cases of amputations, operations for strangulated hernia, etc., all apparently successful, but followed by sudden renal symptoms, a little bloody urine on catheterization, and then by the sudden death of the patient. In many of these cases no albumin, or only a trace, was found before operation. The attending surgeons will skillfully perform intestinal anastomoses or resections, but a similar train of renal symptoms will follow. The autopsy will show primary union, no peritonitis, but the kidneys congested. The staff diagnosis is "death from uræmia," and as such goes upon the records. In many of these cases no pulmonary

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* Read before the New York Academy of Medicine, May 18, 1899. In connection with the concluding portion of Dr. Kemp's article, the remarks of the president, Dr. William H. Thomson, will be published. —EDITOR.

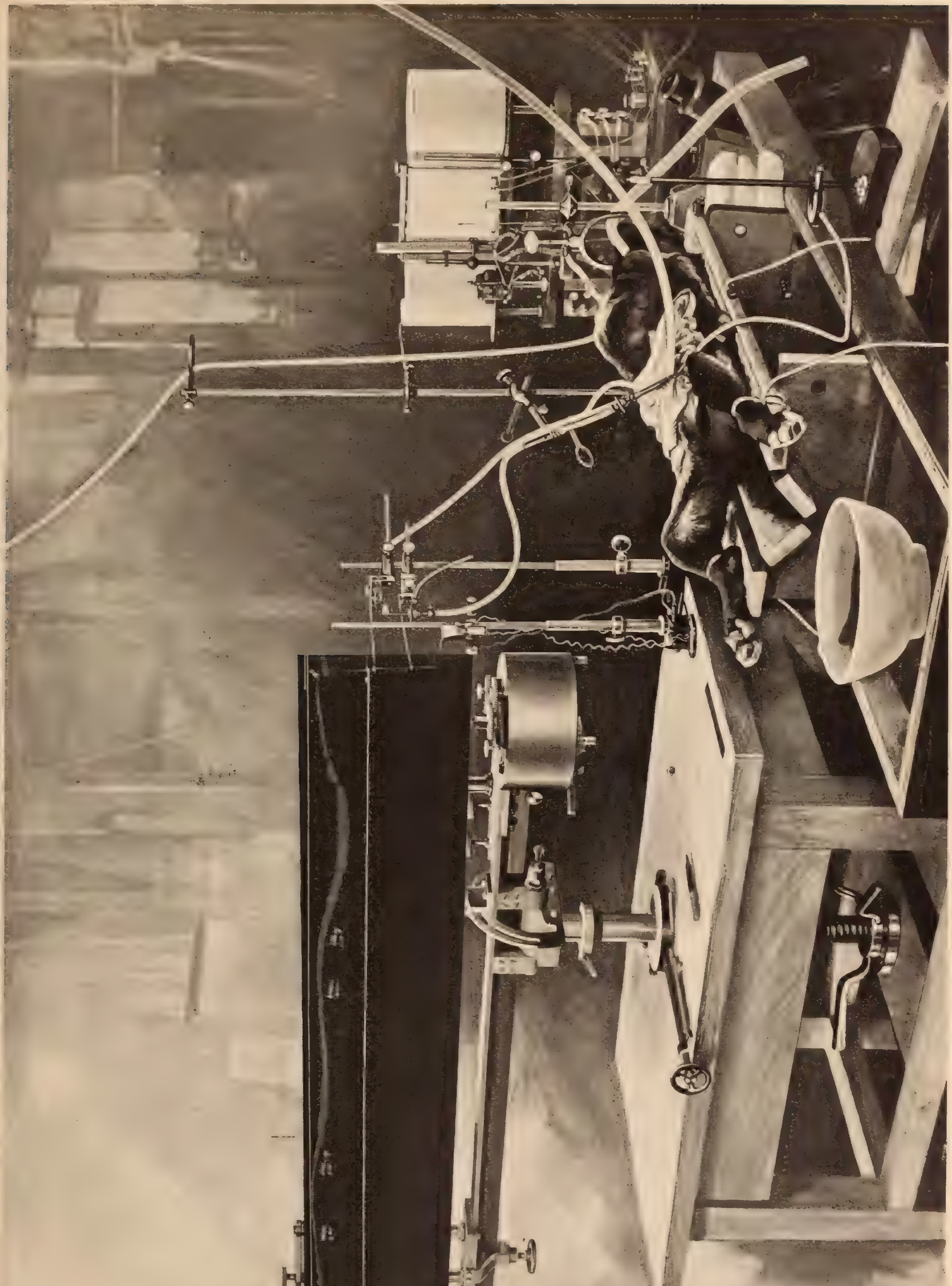

ILLUSTRATION OF THE EXPERIMENT, ETHER IN THIS CASE BEING THE ANÆSTHETIC EMPLOYED.

From Dr. Robert C. Kemp's article on the Effects of Different Anæsthetics on the Kidneys.

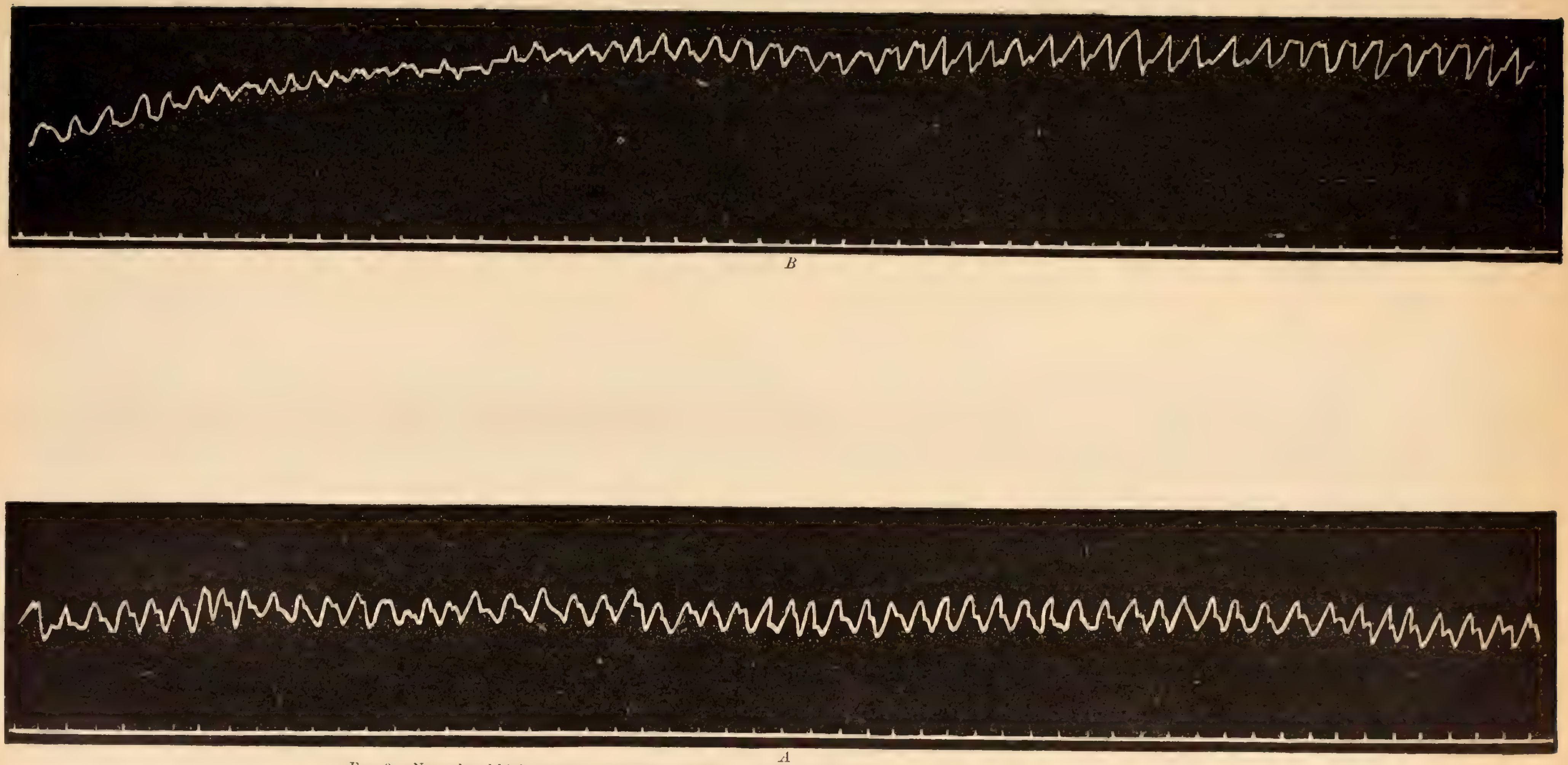

FIG. 2.—Normal and high-pressure oncometric curves. *A*, normal kidney tracing; *B*, tracing after ligation of the renal vein.

complications were found; yet, in spite of facts such as these, some surgeons seem to be still unwilling to impute to the anæsthetic such unfavorable action on the kidneys, and attribute the result rather to sepsis, pneumonia, or other causes.

While these gentlemen are certainly sincere in their views, we think that some of them can not have investigated carefully the histories of their hospital patients, or the "causes of death," as found in the records of the hospitals they attend.

On the other hand, the skilled anæsthetist, and of such we have a good example with us this evening, is to my mind a most important factor in the successful issue of operations; for the selection of the anæsthetic to suit the operation, and the condition of the patient, are matters on which we should consult with him, after a thorough review of the case. When we compare such an expert with the inexperienced hospital interne, such as some of us were a few years since, whose chief function was literally to soak the patient with ether to avoid reproof for insufficient anæsthesia, we should not be too hard on the interne. Few internes had previously received any *practical* instruction in anæsthesia, either at the medical schools from which they had just graduated, or from the attending surgeons of the hospitals. Indeed, the selection of the junior as anæsthetist, or his employment at once in severe cases, without such previous instruction, shows a lack of judgment on the part of the chief in charge. In fact, some of the attending surgeons, we are obliged to confess, are far from expert anæsthetists themselves. How often have we seen the "crowding the patient under the anæsthetic" by order of the attending surgeon, or even a demonstration of this procedure by him in person, "as a rapid method of producing anæsthesia," by smothering the patient! Meantime, long dissertations by the surgeon to the "spectators during operation" can not but have a decided bearing on the effects of the anæsthetic, for we find that both the *quantity* of the anæsthetic employed and the duration of the anæsthesia have much to do with the effects upon the kidneys.

Unfortunately, the skilled anæsthetist is at present in the minority, and therefore we have discussed the question at some length, since by the exercise of proper methods on the part of both the anæsthetist and the operator the dangers of the anæsthetic, in regard to the renal functions, can be much lessened.

Entering, therefore, upon the experimental portion of our paper, I should like to call to your attention the following propositions:

First. Any *anæsthetic whatsoever*, violating, as it must necessarily do, those laws of physiology relating to the circulation and secretion of the kidneys, and to which we have already directed your attention, may therefore be a "*factor*, or an *accessory factor*," in causing disturbances of the renal functions. Hence renal complications may follow any anæsthetic.

Second. Though renal disturbances may follow any anæsthetic, and even cause a fatal issue, yet, owing to such factors as the personal equation of the patient himself, the skill of the anæsthetist, the nature and quantity of the anæsthetic, the length of the operation, etc., there may frequently be no albuminuria or other changes found in the urinary examinations made in our hospitals. Also, slight changes may occur, but they are often evanescent, and by the end of twelve to twenty-four hours all evidences of derangement may have disappeared.

Third. In our physiological experiments, however, we have *invariably* noted a marked difference in the effects produced on the kidneys by the different anæsthetics, as is shown by a glance at the original tracings and by drawings taken from instantaneous photographs of them, which we herewith exhibit. These drawings are by Thomas Nast, Jr., from photographs taken by Dr. Cunningham. By these methods, in which the conditions respectively of the respiration and of both the general and the particular renal circulation were automatically registered on moving scrolls of paper by instruments of perfect precision, we endeavored to eliminate error through personal equation. As a logical conclusion from this demonstration of marked differences between the anæsthetics as regards their effect upon the kidneys, we would recommend that anæsthetic to be chosen which least deranges the normal action of the kidneys, when the case is of such a nature as to call for special caution to avoid disturbances of their functions.

We wish at the outset to express our indebtedness to Professor John G. Curtis for the free use of the great facilities of the physiological laboratory of the College of Physicians and Surgeons of Columbia University for the experiments, the operations for which were performed on dogs, along with check experiments upon rabbits.

The condition of the circulation of the kidneys can be accurately determined by an instrument first devised by Professor C. R. Roy, of London, and called the kidney oncometer. Besides its extensive vasomotor supply, the kidney is so vascular that it has been estimated by Landergren and Tiegerstedt that when it is in full functional activity an amount of blood equal to the weight of the organ itself flows through it in a minute's time. Hence it is evident that great changes in its bulk would occur, according to the state of its circulation, and this is so plainly demonstrated by the oncometer that even the rhythmical variations of blood pressure in the organ caused by the movements of respiration are recorded by it. As shown in the cut on page 732 (Fig. 1), the oncometer is a small, bivalved, kidney-shaped metal box, hinged at the back, with a clasp in front, while a grooved notch at the centre of the rims of the valves prevents pressure on the vessels and nerves of the pedicle of the kidney, when the organ is inclosed in the oncometer.

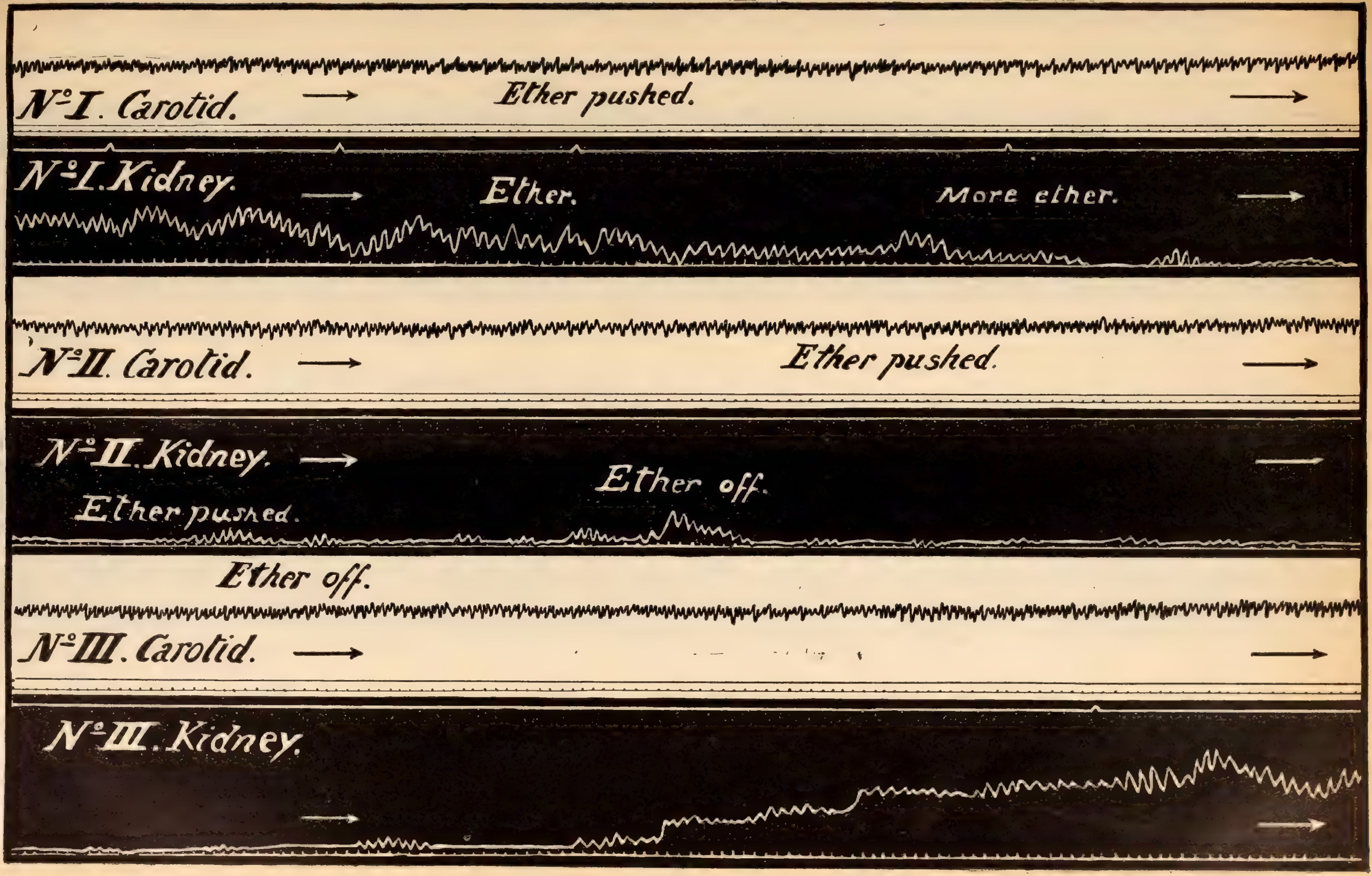

FIG. 3.—Oncometric and carotid tracings following the administration of ether.

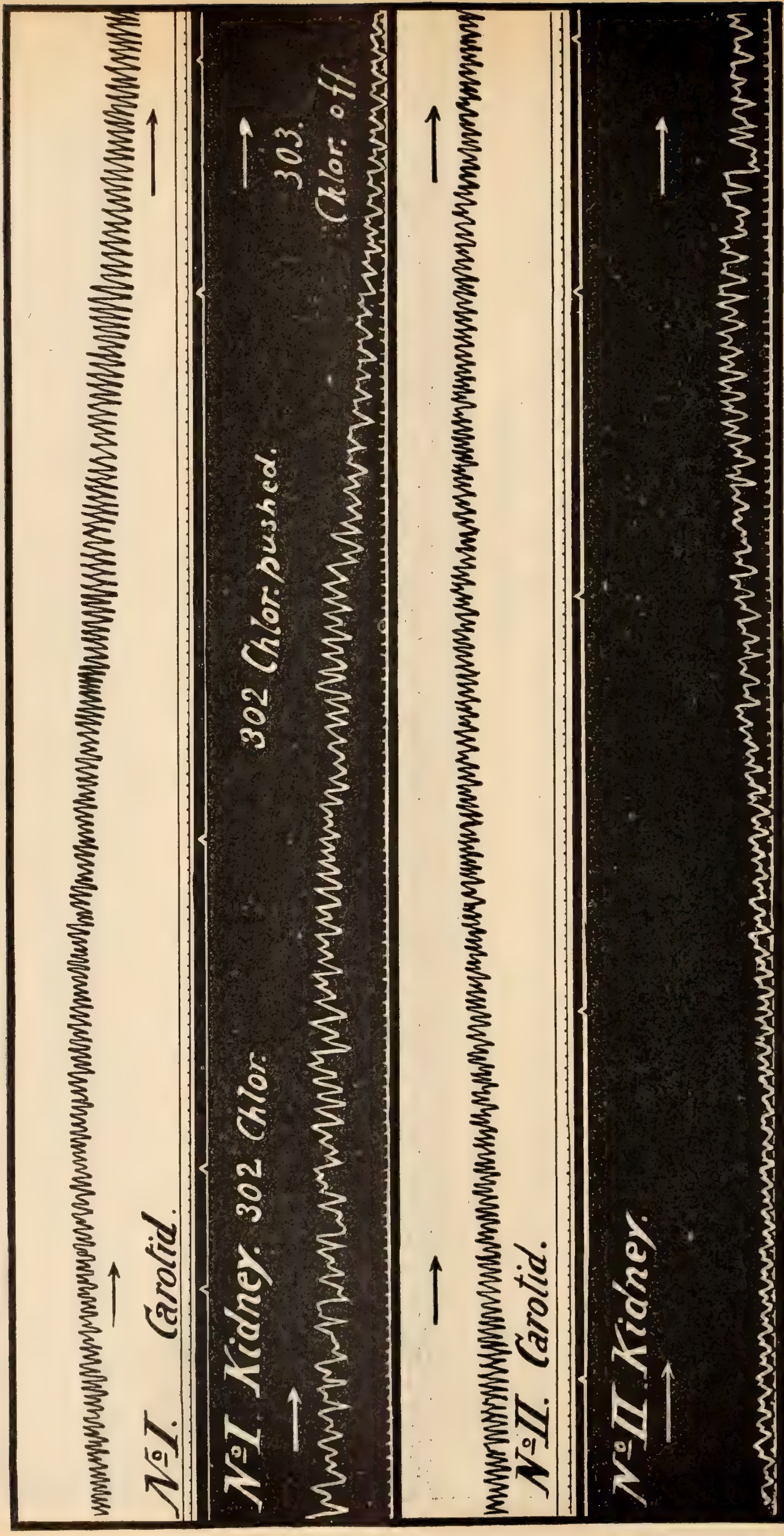

Fig. 4.—Oncometric and carotid tracings following the administration of chloroform.

Lying loosely upon the inner surface of the valves, but fastened to their rims by detachable metal bands, are two pieces of thin soft rubber, which, when filled, so allow a layer of water to be interposed between them and the metal walls of the box that when the two halves are shut down upon the inclosed kidney it rests upon a perfect water pad. A short metal tube in the centre of the upper valve, to which is attached a piece of soft rubber tubing, allows the water in that lid of the oncometer to rise and fall in the tube, according to the expansion and contraction of the inclosed kidney. This movement in the water column is communicated to a column of air farther on in the tubing, which in turn communicates with the air in a closed drum, or tambour, on the upper surface of whose diaphragm rests the long lever of the registering pen, which thus records the oncometric tracing upon a moving sheet of smoked paper. The use of water as the liquid in the oncometer pad is a great advantage over that of oil employed in Roy's instrument, both for convenience and for simplicity, and this improvement we owe to Mr. J. T. Hoyt, the practical electrician and machinst in charge of the physiological laboratory of the College of Physicians and Surgeons.

A special tambour was also made for us by Mr. Hoyt which gave us much better tracings of the kidney than the instruments of Hürtle or Marey.

We give oncometric tracings which illustrate the difference between normal and high-pressure curves (see Fig. 2). The lower tracing represents the lines made by a normal kidney, while the upper one shows the marked contrast when the renal vein is tied; for the consequent great venous congestion and swelling of the kidney in the box forced the water up the tubing so high that the resulting pressure in the air column threatened to burst the drum and raised the line of the tracings above the edge of the smoked paper. As in dogs the kidneys vary greatly in bulk, according to the size of the animal, certain details are secured in Hoyt's apparatus for regulating the amount of water within the oncometer so as to make the pads perfectly adjustable to the kidney.

The secretion of urine was observed as regards rate, quantity, and quality during the experiments by tying a small glass cannula in the ureter leading from the kidney which was not inclosed in the oncometer, so as to obviate the risk of the secretion being affected by the manipulation necessary to include the kidney in the box. We think that this requisite precaution has not been observed by some experimenters. The drops flowing from the ureter impinged upon a delicate lever with an oblique spatula-shaped extremity; the fulcrum of the lever being the drum of a tambour, which communicated the stroke of the falling drops through an air column in a rubber tube to the drum of a second tambour, on which a lever pen registered every drop by a mark resembling an inverted V along a line on the smoked paper above the kidney-pulse tracing. Meantime, the drops of urine falling on the spatula end of the first lever flowed off into a cup, where they were collected for chemical and microscopical examination.

For the purpose of a constant comparison between the blood pressure in the kidney and the general blood pressure, a small glass cannula was introduced and tied in the right carotid, and to the cannula was attached a piece of rubber tubing, both it and the cannula being filled with a soda solution to prevent blood clotting. The rubber tube was then attached to a flexible lead tube, which was connected with a Ludwig's mercurial manometer, so that every pulsation in the carotid was communicated through the soda solution to the mercury in the manometer. A float on the mercury in the manometer carried a fountain-pen attachment which registered the carotid pulsations with ink on the paper of the revolving or Ludwig's kymograph. The normal height of the blood pressure was first carefully noted in each dog. This height varied from one hundred and twenty-five to one hundred and fifty millimetres, and, the standard height in each animal being thus noted, variations from this could then be readily observed.

To insure uniformity in the administration of the anæsthetic, as well as to have ready recourse to artificial respiration when needed, a preliminary tracheotomy was performed in all cases. The tracheotomy tube was tied in firmly, and to it a piece of soft-rubber tubing was attached, and the anæsthetic was administered through this tube. The frontispiece illustrates the experiment, ether in this case being the anæsthetic employed.

The glass V attachment to the tracheotomy tube to secure respiratory movements we found interfered with our results. The polygram, a small air bag attached to the chest and connected with a tambour and pen, was employed at times. The one I show was constructed in an emergency out of a bicycle pump by Dr. Cunningham.

As a matter of interest we have here this evening a special apparatus devised by Mr. Hoyt as a regulator for artificial respiration. By a system of gearing, a friction disc and a peculiar valve with shuttle action, artificial respiration from twenty to a hundred and twenty to the minute, and at varying volumes, can be given to suit the normal respiratory movements of the animal to be employed in the experiment. Even the normal pauses of inspiration and expiration are produced. Mr. Hoyt will explain later its action to those who take interest in the matter.

In all such experiments, and notably in regard to the action of anæsthetics, a chief indication is to avoid delay as much as possible, for prolonged anæsthesia with any agent induces modifications from the first effect. In these operations it was found possible to complete all the incisions and make the connections between the different parts of the apparatus, with proper regulation and starting of the tracings, in twenty minutes. You will kindly observe Mr. Hoyt's demonstration, and note how, by a simple device, with a soft-rubber bag with inflow and outflow lines and with a Davidson's syringe, he practically reproduces our experiments with the kidneys.

Effects of Ether.—The results from the administration of ether obtained from experiments on ten dogs were remarkably uniform, and are well illustrated in Fig. 3 (page 735).

Carotid Tracings.—The effect of ether on the general blood pressure, as shown by the carotid tracings, is to raise the pressure from the beginning, even under mild anæsthesia. When the ether is pushed, the carotid tracings rise again slightly. When the ether is removed, there is a moderate fall.

Kidney Tracings.—Under moderate anæsthesia there is at first a slight rise of the tracings from the base line, corresponding to the carotid tracings, but as the ether is pushed a marked contrast from the simultaneous carotid tracing is noted by a great fall in the oncometric curve down to the base line and even below it. If the anæsthetic is thus kept up the waves grow progressively shorter, or even disappear for a few seconds. If the ether is then suspended it takes from thirty seconds to two minutes for the kidney to recover, when the tracing line begins to rise again, to be again depressed if ether is readministered. This effect was noted over and over again, and from its uniform contrast with the corresponding carotid tracing it shows that this effect upon the kidneys is specific, and, what is more, this specific effect can be separately noted when ether is mixed with other anæsthetics. Clearly, it can not be imputed to the increased tension caused by ether; for we have the typical ether kidney tracings appearing during the use of the mixtures with chloroform, when there is a reduced tension from the chloroform heart, as with the use of the A. C. E. mixture.

The renal secretion under ether, determined as above described, was first an early *diminution in the number of drops* from the cannula in the ureter. The secretion diminished progressively, as the oncometric curve dropped toward the base line, until finally, under free and continuous etherization, a complete suppression occurred. These are shown in the figure, "inverted V's" on the upper line—three drops before ether was pushed, with only two drops in about four times the intervals afterward, and only one drop toward the end of the tracing. Albumin appeared early even under moderate anæsthesia. This increased under deep narcosis, until just before the suppression it amounted to about sixty per cent. in volume.

Chloroform.—The experiments with chloroform were performed on six dogs.

Carotid Tracings.—As seen in Fig 4 (page 736), there is an evanescent rise, lasting only two or three seconds, when but a slight amount of chloroform is administered, soon followed by a fall of pressure. As the chloroform is pushed there is no initial rise, but the fall becomes more marked. As soon as the chloroform is suspended the pressure rises again. There can be no question that the fall is due to the depressing effect upon the heart.

Kidney Tracings.—In contrast with ether, the kidney tracings closely correspond with the simultaneous carotid tracings. The kidney tracings become shorter as they approach the base line, but they do not become abolished, nor do they ever fall to the base line as with ether, but simply remain parallel to the record of the general circulation.

The *renal secretion* remains copious in amount and begins to diminish only as the general circulation becomes much depressed, the urine continuing to flow nearly to the time of death.

Albumin appeared only after prolonged narcosis, and then in but small amount, though the general circulation had become dangerously lowered.

(To be continued.)

THE
RELATION OF PATHOLOGICAL CONDITIONS
IN THE
ETHMOID REGION OF THE NOSE
AND ASTHMA.
TREATMENT.*

By F. H. BOSWORTH, M. D.

This whole matter, it seems to me, depends upon a proper appreciation of the great respiratory function of the nose and the necessary and very intimate connection between the nasal apparatus and the bronchial mucous membrane. At best, we can make little out of the bronchial tubes excepting as mere conducting tubes. We find no special functionating apparatus until we get to the air cells, and these are not involved in an attack of asthma. This has a decided bearing on treatment, in that any disturbance of the nasal mucous membrane constitutes a disturbance of the great respiratory function of this membrane, which has to pour out from twelve to sixteen ounces of watery fluid upon the surfaces of the turbinated bodies to saturate and moisten the air which passes into the bronchial tubes. This presupposes an intimate connection between the mucous membrane of the nose and the mucous membrane of the bronchial tubes. The disturbance of one part means a disturbance of the other part; that is to say, a congestion of the nasal mucous membrane creates a marked tendency to a like congestion in the bronchial mucous membrane, while a healthy functionating condition of the mucous membrane of the nose tends to a like healthy condition as that of the bronchial tubes. A diseased condition of the mucous membrane of the nose tends to produce disease of the bronchial mucous membrane. It seems to me that in this fact, established by clinical observation, lies the basis for our consideration of the relation between asthma and disease of the nasal cavities. If we acknowledge this, it seems to me we are ready for a clearer comprehension of what the true relation is between these two regions in this neurotic disease we call asthma.

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* Read before the American Laryngological Association at its twenty-first annual congress.

Dr. Swain, in discussing the pathological aspect of the question, now considers it œdematous hypertrophy and polypoid degeneration, which I think in this disease must be a vasomotor paresis, a dilatation of the blood-vessels. I am glad to hear less talk of muscular spasm. He is the only man in my presence who has disturbed my conviction that an attack of asthma is a vasomotor paresis of the blood-vessels of the mucous membrane of the bronchial tubes rather than a spasm of the bronchial muscular fibres. We know that an attack of hay fever is a vasomotor paresis of the blood-vessels of the mucous membrane lining the nasal cavity. In my previous writings I have designated hay fever as a vasomotor rhinitis. This establishes their intimate connection, and if I am correct in this view of it, it therefore follows that the treatment which is indicated in these cases becomes notably clearer. We talk about œdematous hypertrophy, polypoid degeneration, and nasal polypi as intimately associated with asthma. Clinical observation has taught this, and there can be no question of the fact, but I think, and my conviction has been for a number of years, that we can go still further. I believe polypoid degeneration of the mucous membrane of the nose, œdematous hypertrophy of the mucous membrane of the nose, and nasal polypi all indicate and are clear symptoms of ethmoiditis. We oftentimes see cases of asthma that are relieved by the removal of polypi, yet the asthma recurs. Why? Because we fail to recognize the fact that the polypi present in the nose are only symptoms or manifestations of disease in the ethmoid cells, and in removing simply the polypi we have not fully carried out the clinical indications. We have neglected to do our whole duty when we remove the polypi alone. We must accept the existence of polypi as indicative of ethmoiditis, a chronic inflammation of the mucous membrane lining the ethmoid cells. By making the radical operation we not only remove the polypi and protect the patient from further recurrence of them, but we cure the asthma. How shall we do that? It requires pretty radical treatment, and I have tried various methods. There are two ways in which ethmoiditis manifests itself in the nose. The first and early indication is in the polypoid degeneration of the mucous membrane covering the middle turbinated bone. This I have come to recognize as almost pathognomonic of the existence of a similar degeneration of the lining of the ethmoid cells. If we go over the plates of Zuckerkandl we shall find many cases of cross sections of the head in which there is a great hollow middle turbinate, a great egg-shell, so to speak, projecting into the cavity of the nose, bulging out the sæptum, and establishing contact between the turbinated body and the nasal sæptum. The ethmoid cells become distended and burrow out, as it were, into the middle turbinate in such a manner that the middle turbinate becomes the outer limit of the ethmoid cells. In another series of these plates we observe the ethmoid cells distended in such a manner as to crowd the middle turbinated body out *en masse* into the cavity of the nose and cause it to impinge upon the sæptum. These two conditions are the ones which, from clinical observation, I recognize as constituting ethmoiditis, as evidenced by the fact that the middle turbinated body is covered by œdematous hypertrophy. Why does this occur? I take it, it occurs simply because the normal orifices of the ethmoid cells have become occluded by a mild inflammation. This mild inflammation may be the result perhaps of clots. My impression has been for a long time that clots are a symptom rather than a result. I think that in most instances it is one of the adventitious results of simple chronic hypertrophy of the nasal mucous membrane, causing occlusion of the anterior and posterior orifices of the ethmoid cells. The result of this occlusion is the establishment of a mild chronic inflammation which, in these closed cavities, takes on a certain œdematous character. An inflammation within the closed cavities or accessory cavities becomes practically a polypoid degeneration of this mucous membrane. The closure causes intracellular pressure, which in turn causes distention of the soft, flexible parts and extension of the ethmoid cells, crowding the middle turbinated body into the nose and against the sæptum. We now have a curious chain of symptoms developing. Why neurotic symptoms are so closely associated in so large a number of cases with ethmoid inflammation I do not know, nor do any of us know, I take it. We have ample clinical evidence for the statement that the nerve centres which preside over the vasomotor nerves must be in close proximity to the ethmoid cells. The first thing that occurs with swelling and distention of the ethmoid cells in so many cases, especially if there is a neurotic habit, is something which disturbs that control which the vasomotor centre exercises over the blood-vessels of the nasal membrane, and we have sneezing, we have asthma, we have a disturbance of that nice relation which exists between the mucous membrane of the nose and the bronchial mucous membrane, upon which the integrity of the bronchial mucous membrane depends. However that may be, and whatever the train of symptoms that is set up by this distention of the ethmoid cells, certainly the indication is clear. We have to cure the ethmoiditis, the disease in the ethmoid cells, and it has been my firm conviction for a number of years that the prominent indication is to relieve intracellular pressure. How is this to be done? It is simple enough, but it must be done radically. When it shows itself in the form of polypi in the nose, we must not content ourselves simply in removing the polypi, which are but a small portion of the disease. We must go further than that and attack the cell cavities. If we have a mass or masses projecting into the nasal chamber, we fit a snare around them and thoroughly remove them, uncapping them, and thus open up the cavity. We thus remove all points of contact; yet mere points of contact in the nose I regard as harmless. We should remove these points of contact because they are the result of encroachment on the normal nasal chamber, and by removing them we reestablish the normal nasal lumen. I say we should go further and open up the cells of the ethmoid. How? I know of but one way. I can not easily or efficiently manipulate round cutting forceps in the middle meatus of the nose. Well, you may say, we should use curettes or gouges.

In this region we are operating in a very delicate part, and I can not manipulate gouges with any satisfaction. We have not only got to gouge out more or less of the ethmoid cells, but to break up the little trabecular walls, all of them. We must relieve the intracellular pressure, and we have this pressure in a large part of the ethmoid cells, and consequently the indications are to break down these trabecular walls. My experience teaches me that by all odds the most delicate, truest, and safest instrument with which to do this is a burr. I use a series of burrs, from the sixteenth of an inch in diameter to about a quarter of an inch in diameter, rounded and ovoid in shape. They are mounted on a dental engine, or they may be attached to an electric motor, if you want to be modern and scientific. When you get cases in which the turbinated body has protruded into the nasal cavity you can not snare them so easily, and I prefer to use the burr. By means of the burr you are able to grind down these trabecular walls. I have not met with any accident in any of a large number of cases on which I have operated by this method.

A word or two with reference to those cases where the polypi are situated in the superior meatus. These cases trouble us and are difficult to deal with. Those are the cases which show clearly that the polypoid tissue was developed, or rather that the intracellular pressure was developed, in the posterior ethmoidal cells which have become occluded, and the polypi have made their way out of the posterior ethmoidal cells into the superior meatus. Thus the ethmoid cells are distended where the superior meatus is exceedingly narrow, and you never get large polypi. I have rarely seen in this region polypi larger than the size of a lentil or a small split pea. These cases are difficult to deal with. It is the anterior ethmoidal cells which are involved in probably nine cases out of ten, and it is these, in which polypi are projecting well into the nasal cavity, that we can treat most easily. I am an earnest advocate of the use of the burr, which I find a most efficient instrument for breaking down the trabecular walls of the ethmoid cells. It is the safest way to do this work, and the burr does its work more thoroughly and more safely than any other instrument with which I am familiar.

Inflammatory disease of the ethmoid cells, or ethmoiditis, is a common affection. It is vastly more common than we have been taught to suppose. A great many cases of colds in the head are really attacks of acute ethmoiditis. Chronic inflammatory diseases of the ethmoid cells and non-purulent disease of the ethmoid cells are affections which nowadays are easily recognized by us. Such conditions being recognized in connection with cases of asthma, especially if the attacks are relieved temporarily by the local application of cocaine, we have every reason to give such patients a fairly good prognosis, and to promise a cure by the treatment of the ethmoid cells. Furthermore, we should always bear in mind that in those cases in which we remove the polypi and do not cure the asthma, the polypi are simply a local manifestation of the disease farther on, and we must not only remove these polypi thoroughly, but treat the ethmoid cells as well. We can remove the polypi and relieve the asthma in most cases, unless we have those intensely neurotic patients to deal with who can get up an attack of asthma on the slightest provocation, and from even trivial disturbance of any of the other organs of the body. These are the cases which tax and baffle us. The ordinary case of asthma occurring in connection with recognized intranasal disease I regard as curable in the large majority of instances, and I am confident that many of the cases which have failed of relief at our hands heretofore have failed because we have not sought the source of the disease deeply enough.

THE SHELDON MURDER TRIAL.

A REVIEW OF THE MEDICAL EVIDENCE RELATING TO PISTOL-SHOT WOUNDS OF THE HEAD.

By CHARLES PHELPS, M. D.,
SURGEON TO BELLEVUE AND ST. VINCENT'S HOSPITALS.

(Concluded from page 673.)

In order to arrive at a better knowledge of the sufficiency of the experiments, which were instituted to determine the significance of the lesions observed, a considerable and probably adequate number of additional experimental observations in connection with this review have been made upon the cadaver. A Colt's five-chambered revolver of 0.30 calibre made in 1875, in all respects of the same character and dimensions as those employed by the prosecution and defense, and charged with old cartridges, was used. The subjects were all recently dead, uninjected, without obvious signs of decomposition, not previously frozen, and were warmed and dried before they were shot. The wounds were all made upon the head, with the exception of a limited number which were made upon the body, simply to compare the effects of very old with new powder, and which were not otherwise regarded.

There were certain of the lesions which have been enumerated as being present or absent in the case at issue, which are often characteristic of pistol-shot wounds made upon the cadaver, and sometimes of wounds of the living subject, which are without import in the present investigation. The smoke stain, which is not tenacious, can not be expected to survive a free external hæmorrhage, and is certain to be removed by even moderate ablution. Three grains of powder upon the surface are not only readily removed by slight disturbances of the body, but leave no stain after their removal. The radiation of the hair, which is of frequent occurrence at the shorter ranges, is inconstant. Brain matter may or may not be extruded from the wound, and fragments of bone of varying size are driven through the cerebral tract at all ranges and with all calibres of bullet. The size and outline of the cutaneous and osseous wounds are not dependent in any degree upon range except with bullets of the larger calibres. These facts have been demonstrated in an extensive series of observations recently published,* and are verified in the later experiments made with bullets of 0.30 calibre for this review of a special case. It has been equally demonstrated that a certain amount of singeing of the hair, and a certain proportion of powder grains partially imbedded in the skin, may be so washed away as to leave no traces. This may be done with water, or soap and water, or with embalming fluid, though the last has no special efficacy in this way. If, however, the burning of the hair extends far beyond its tips, it will still be discernible; or if the grains are deeply imbedded they will leave perceptible pittings of the skin. The instances in which an appreciable proportion of the grains does not wash out are exceptional. At ranges of five and six inches, in which they are exceedingly numerous and are concentrated within an area of half an inch to two inches and a half, an estimated one third to one half disappeared in each one of twenty and more observations. In like manner small lacerations, or a staining or charring of the edge of the wound, may be lost through necessary incisions and manipulations made in the course of ante-mortem treatment or of post-mortem examination.

The hypotheses which were formulated, denying and affirming that the wound was the result of a contact shot, were predicated upon the existence of identical lesions, with the exception of singeing of the hair, which was not included in that of the prosecution, though attested as a fact by its medical witnesses. If the positive and negative conditions which are demonstrably without significance are excluded, there will remain for explanation the presence of a discolored spot upon the top of the ear, some isolated powder stains upon the ear and temple, the burning of the hair, the discoloration and contusion of the subcutaneous tissues, and the absence of a certain number of imbedded grains, of burning of the skin, of laceration of the wounds, and of the infiltration of the wound and subcutaneous tissues with powder gas, smoke, and grains.

The ascription by the prosecution of the discolored spot upon the ear to injury received in the passing of the bullet seems more credible than the suggestion of the defense that it was a post-mortem lesion; and if, as stated, chemical examination disclosed unmistakable evidence of lead, it leaves little room for doubt that the part was contused during life, but it proves nothing more; it determines neither the range of fire nor the manner of injury. A shot might as conceivably graze the ear if fired at a range of one or more inches as when coming from a longer distance, and even in a contact shot contusion might be caused by a recoil of the pistol. The presence of lead in the tissues of the ear is indeterminate of range, since lead particles as well as grains of powder may escape through the space between the barrel and the chambers and be found behind whatever line may have marked the position of the muzzle.

The two stains upon the ear and the one upon the temple discovered at the first necropsy and described as "being such as grains of powder would make if they struck the skin when not ignited" were not noted in the examination of the body made after exhumation, and it may be assumed had disappeared. As they were not burns they were evidently from powder grains or smoke, and though more persistent than usual were entirely removable, as indicated in general statements previously made. A few such isolated grains at a distance from a contact wound are occasionally observed in the use of this pistol, and therefore are not significant of range. An unnecessary difficulty seems to have been made in explaining the existence of such grains at a point directly behind the wound of entrance; but the fact, though it were incapable of explanation, still remains, and the fact, not its explanation, is the one thing of importance.

The burning of the hair may be held in view of a very great number of experiments with pistols of all calibres, including that of 0.30 calibre, as of especial significance among the enumerated lesions. It has been found to occur at contact, and to be limited to a definite range which increases with the calibre of the bullet, and extends from three inches with a bullet of 0.22 calibre to fifteen inches with one of 0.44 calibre of the most effective type. In seventy-five observations made with this pistol of 0.30 calibre at ranges from contact to six inches inclusive the condition of the hair was noted. In thirty-two additional observations made at ranges of six inches and a half and more it occurred in no instance. The burning of the hair at contact range, which was observed in less than half the cases examined, was limited to a few hairs at the margin of the wound; at ranges of a fourth of an inch to two inches it was invariable in a series of twenty-three cases, and was oftener than otherwise a mere singeing of the tips, and was limited to one aspect of the wound or to an area of an inch or less; at ranges of three to five inches it was no longer constant and was slight and confined to the margin of the wound. At a range of six, as at six inches and a half, the hair was no longer burned. The results obtained by the chief witness for the prosecution in the small number of experiments upon the cadaver made by him are so different from those just recorded as to be difficult of comprehension. He found in every case, from contact to a range of four inches, the hair burned to a crisp down to the scalp on every side of the wound in an area of an inch and a half to two inches, and blown violently away from the wound. A large number of observations probably would have modified these generalizations. The additional statement that he had burned hair with this revolver and ammunition at twenty-six inches is explicable only upon the supposition that by the removal of the hair from the head, or in some other way, the conditions were made abnormal. The alleged fact that two particles of powder will burn twelve hairs at a distance of twenty-four inches, whatever may be thought of its manner of demonstration, is not paralleled by any known observation made upon the cadaver.

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* Phelps. *Traumatic Injuries of the Brain, etc.*, part ii.

The apparent heating, but not burning, of a lock of hair at some distance from the wound was probably occasioned, as the witness suggested, by a process of crimping to which it was subjected after death. It was not claimed by the prosecution that the singeing of the hair at the margin of the wound was due to the same cause. The obvious fact that the heated but unburned hair had been rolled about some object, while the singed hair, burned only at its tips, stood upright upon the anterior aspect of the wound in the course of the bullet, would make such a supposition untenable, even had the burning not been discovered as it actually was before the crimping had been done.

The condition of the subcutaneous tissues failed to receive the careful attention which it demanded. The discoloration and appearance of contusion which they presented at the first necropsy can be ascribed only to hæmorrhage and consequent injury to structure, if it be true, as stated, that at the second necropsy no evidence of the deposit or infiltration of powder could be detected. Such appearances of contusion as were described have been experimentally produced at short range, but have not been recorded as occurring at a range beyond six inches. The subcutaneous lesions with this calibre conform generally to those observed with other calibres of bullet. In an examination of the same one hundred and seven cases which were scrutinized for burning of the hair, there was powder infiltration of the superficial fascia or temporal muscle, or of both, too great to be entirely removed by either hæmorrhage or ablution, with every contact shot. At a range of a fourth of an inch there was a staining of the temporal muscle or osseous surface, or a simple blackening of the bullet track in every instance. At ranges of half an inch and an inch there was no more than a staining of the bullet track, and not always that. At longer ranges there were no powder deposits and nothing observable aside from the contused wound itself, but bits or fragments of lead variously deposited above or below the pericranium. While a considerable deposition of powder or of the products of its combustion may be excluded in this case, it is not certain that a mere discoloration confined to the bullet track may not have been so concealed by hæmorrhage or by manipulations of the wound, as to have been impossible of detection at either necropsy. If from this negative indication, therefore, a contact shot can not be admitted, it is still possible that the shot may have been fired at a range of a quarter of an inch to an inch; and if this were not actually the case, the contusion of the soft parts, so far as it may be judged from the results of experiment, affords positive evidence that the range was not greater than six inches.

The cranial contents seem to have been but cursorily examined. The softening which the brain is said to have suffered was apparently rather a lack of cohesion in its parts from extensive laceration, and would increase the probability that the range was short.

The negative results of an examination of this case are also significant.

It has already been stated that the size of the cutaneous and osseous wounds does not depend upon range, even at contact, except with the larger calibres of bullet. This statement also applies equally to laceration and comminution. Laceration, which is almost constant at contact with 0.38 to 0.44 calibres, is exceptional with 0.22 calibre. In fourteen observations made at contact, with this pistol of 0.30 calibre, the external wound was trivially lacerated in six only, and the greatest diameter noted did not exceed that of a wound made at a range of thirty inches. In twelve of these observations, in which the osseous conditions were remarked, there was comminution in only three, and in several in which the outline was circular the diameter was not greater than may be observed at any of the longer ranges. The absence of laceration of the soft parts, therefore, in any instance of the use of this calibre of pistol, like the size and form of the osseous wound, is without significance.

The burning of the skin is confined to a still narrower limit of range than the burning of the hair, and is of proportionately less frequent occurrence. In contact shots with the pistol of 0.30 calibre, except in a single instance in which there was a stain of doubtful character upon the skin of the forehead, it was never more than a charring of the edge of the wound, and was often absent altogether. At ranges of a fourth of an inch to three inches inclusive, it was usual but not constant, and rarely of great extent. At ranges greater than three inches it was not detected in any instance, though twenty observations were made at four to seven inches. This lesion when experimentally produced upon the cadaver seems to be limited to the epidermis, but as it occurs in the living subject it is not unusual that the whole thickness of the true skin is killed and converted into a hardened desiccated mass. So far, however, as range can be estimated in cases of suicide and homicide its superficial limits are the same.

The fact that in the present case the skin was not burned will have therefore only a negative value.

The absence of all imbedded powder grains does not necessarily afford a clew to the range at which the shot was fired. At contact, none are likely to be found except when laceration is marked and they are fixed in the inverted skin. At ranges of a fourth of an inch to three feet, and even more, in the use of a pistol of this calibre, a certain number are likely to remain immovable even after thorough ablution. If the site of injury is unprotected by hair, and at ranges of a fraction of an inch extending to several inches, it is probably inevitable; but if the hair is thick, or is closely and smoothly combed upon the head, even though it be moderately thin, no grains may penetrate to the scalp with sufficient force to become fixed in its structure. This protection will be more or less efficient at different ranges and in individual shots under the influence of unknown causes; in some instances, perhaps, as the angle of incidence varies, or as the texture of the hair renders it more or less resistant. If the range is from one to three feet, the probability that isolated grains, though perhaps not more than two or three in number, will remain immovably fixed in some part of the face is scarcely less than that of the fixation of a greater number when the range is shorter.

It will be seen that the hypothetical questions propounded, when illustrated by the facts which have now been presented, do not admit of categorical answer; the premises upon which they are founded do not determine whether or not the wound was occasioned by a contact shot. The question as formulated by the prosecution ignores the most important lesion which existed, the singeing of the hair, and involves subcutaneous conditions which were not clearly ascertained; while the experimental observations, with which the actual conditions were compared, have been shown to be too few in number to afford a sufficient basis for generalization. If the actual conditions, so far as they are known, were accurately stated, and if they were to be interpreted by a comparison with the results of the much larger number of later experiments which have been made in connection with a study of this case, the conclusion might be reached with reasonable certainty that this wound was not the result of a shot fired at contact. In a very great number of experiments made upon the cadaver at contact, with pistols from the smallest to the largest calibres, a considerable amount of powder has always escaped combustion, and has been somewhere appreciably deposited, either upon the cutaneous surface or in the substance of the subcutaneous tissues, above or below the temporal fascia.

The generalization made from the observations of the medical witnesses for the State, in which the effects of shots fired from contact to a range of four inches are grouped and, with certain exceptions noted, made to appear essentially the same, is not true in fact and is mischievous in effect. The results of shots at contact or at a fraction of an inch, when compared with those fired at a range of three to four inches, are as strongly contrasted as any which are to be observed in the whole field of experimentation. The infiltration of the subcutaneous tissues, the usual characters of the wound, the extent of burn, and the area and number of superficially imbedded grains characteristically differ. It is by no means to be inferred because there is reason to believe that a shot was not fired at contact that its range might not have been less than four inches; and yet this inference seems to have been the sole basis of exclusion for such ranges in the present case.

The assumption that the shot was fired at a range of two or three or more feet is made untenable by the fact that the hair was burned and the subcutaneous tissues were contused. The reasons for making this statement positive have been previously set forth and need not be recapitulated. A lead stain and an inversion of the edge of the subcutaneous wound, and a few sparsely scattered grains of powder upon the surface, some of which may be imbedded, are the only positive indications of such ranges; and these are not constant. A burning of the skin or hair, or a subcutaneous contusion or infiltration of powder, whether burned or unburned, is therefore sufficient evidence in any case that the range has been short. The results of twenty or more shots fired with this pistol are substantiated by a much greater number of observations made with others of various calibres.

Certain opinions and assumed statements of fact, which as collateral evidence form parts of the record, can not be accepted without question.

It was testified by a manufacturer that the strength of powder is lessened by age, and that when old its combustion is slower and its burning qualities much greater. This may have been proved for the burning of strawboard with which his experiments were made, but it is not true for the human body. In numerous experiments made with the special object of determining this point, no appreciable difference has been observed in the range at which burning of the hair or skin occurs, in the area or density of smoke stain, or in the deposit of powder grains, whether recent cartridges were used or those filled with powder known to have been made thirty-five years or more ago. These observations were at several ranges, and with cartridges of different sizes. In experiments made at the rifle range in Salem, Massachusetts, powder which was fifty years old was found to have suffered no deterioration. It is probably the fact that powder which has not been exposed to dampness or penetrated by the lubricant which covers the cartridge is unaltered by the mere lapse of time. The modified effects of powder which has been subjected to such influences are not to be determined from inference, but can only be ascertained by direct experiment. A series of such observations, therefore, forty-two in number, has been made with cartridges of different calibres containing damaged powder. Tests were made with cartridges in which the powder was still damp, and with others in which the powder, though caked, had become dry. It will be sufficient for the present purpose to state the general results of these experiments without analyzing the statistical data upon which they are based. The essential change which is noted in the effects of cartridges by a dampening of their powder, or by a persistence of its caking or concretion after it has become dry, is a diminished penetrating force given to the bullet, which with all calibres and at all ranges is proportionate to the percentage of powder which has been rendered incombustible and therefore inert; and as under the same circumstances of exposure individual cartridges suffer in different measure, and perhaps some of them not at all, it is impossible to assume the degree or even existence of this loss of energy in a given instance, or in general to formulate an average of its results. In a review of forty-two observations, in which the cartridges were known to have suffered material alteration, whatever peculiarities they present will be found to depend upon the deficient energy of the damaged powder. The percentage of penetrations and perforations of the cranium was much smaller than in the use of sound cartridges of the same calibres. If the powder was dry and not greatly caked the difference was minimized or inappreciable. The imbedded grains, though occurring in the same areas, were finer, rather fewer in number, and could be washed away in larger proportion. The smoke stains and subcutaneous lesions were not appreciably modified, and the cutaneous and osseous wounds were of the same average dimensions. In case of powder which, though caked, had become dry, the hair was not burned at longer ranges, but if the powder was still damp the range at which burning occurred was slightly extended and its severity was increased; and the burning of the skin under the same circumstances was similarly affected. The relation of these facts to the case at issue is obvious. In that case the opposite cranial wall was shattered, and as with the pistol used perforation, even with the use of sound cartridges, is infrequent, the powder, though old, must have been dry and not sufficiently caked to impair its energy. It follows that the conclusions derived from experimental observations made can not be invalidated on the ground that more recent cartridges were employed, and that the range at which hair can be burned (the key to the solution of the problem of possible suicide) could not have exceeded five inches with the use of such cartridges as were in the possession of the defendant.

The testimony of the same gentleman as to the distance to which flame and sparks are projected, and his fanciful explanation of the often greater size of contact wounds than others by a loss of equilibrium in the bullet which it has no time to regain, are immaterial to the question to be solved. A statement of fact made by him, that in all cases when he had fired at blotting paper at contact a blackening was found on the first finger of the right hand between the first joint and the knuckle, is, however, pertinent and of serious importance in connection with the attested circumstance that the corresponding finger of the deceased was clean. The medical witnesses for the prosecution corroborated and emphasized this experience in testifying that the deposit upon the finger was more pronounced when shots from this pistol were fired into the human body, and was denser when they were fired at contact; and still further, that it was invariable, and could not be removed by washing the part. The medical witnesses for the defense, on the other hand, made special experiments with the same pistol and with old ammunition, in a certain number of which no trace of deposit could be detected on the trigger finger; and one witness, in a final instance, was enabled to exhibit to the jury his finger, which had been unwashed and carefully protected from change, still unsoiled. In the later experiments made in the study of this case some soiling of the trigger finger, however slight, has been found in every instance in which it has been sought; but when trivial, it has not been usually incapable of removal by washing. The at least one demonstrated exception to what seems to be the general rule as to a finger deposit is sufficient to invalidate any conclusion which it might otherwise suggest; and as the stain may be removable by even ordinary ablution it is not an unwarrantable assumption that it may have existed in this case, have primarily escaped attention, and have quite disappeared before the final examination of the body when for the first time this point was given any special attention.

It is not strange that differences of opinion should have existed among the medical witnesses, and that opinions should sometimes have been stated so unreservedly as to have assumed the form of statements of fact. It is not certain, for example, that living hair is more readily burned, or that living skin is more penetrable by powder grains than that which is dead. These are questions to be determined only by actual observation, and a large number of cases of suicide and homicide, a larger number probably than were compassed in the experience of the witnesses who testified so positively *pro* and *con*, have not been sufficient to give them definite answer. The accidental conditions of the hair, whether it be wet or dry, smooth or fluffy, fine or coarse in texture, are obviously influential, both in the living and in the dead, in determining not only the area and degree in which it may be burned, but the range within which it occurs. These conditions being the same, if slight differences exist, dependent solely upon the fact of life or death, they can not be ascertained with certainty, since the exact range at which a suicidal or homicidal shot has been fired is always inferential; the victim, if he survives, usually says the pistol was held closely to his head, and is unable more nearly to approximate the distance. The same difficulty from inability to fix the range with precision is encountered in deciding the comparative penetrability of living and of dead skin to grains of powder. It can be surmounted in some degree by the observation of pistol-shot wounds made upon parts immediately after their amputation during life, and while the skin is still warm and presumably but little removed from its normal condition.

Several experiments were made in order more clearly to determine this point; one of these was made with the revolver of 0.30 calibre heretofore employed. A section of skin and subjacent superficial fascia was removed from the mammary region of a woman thirty years of age, of average weight and in perfect general health, who was suffering from an abscess beneath the pectoral muscles. The skin was of medium thickness, soft, pliable, delicate in texture, and of absolutely normal character. The part removed was of oval form, and four inches and a half by two inches in its longest diameters. It was shot ninety seconds after its removal from the body, with a bullet of 0.30 calibre from a short cartridge filled with black powder, thirty-five years old, at a range of an inch. The smoke area was oval, radiated, and six by four inches in diameter; the wound was an eighth by three sixteenths of an inch in diameter; the burned or black area was a half by three quarters of an inch in diameter, and the burn was extended by a yellow scorched area to an inch and a quarter. There were no grains free upon the surface, and those imbedded which were perceptible were confined to the margin of the black area and were about twenty in number. Five days later the skin, which had been meanwhile refrigerated, was again shot at a sufficient distance from the original wound with the same pistol, at the same range, and with a cartridge of the same size loaded with the same powder as before. The wound and burned areas had the same diameters as before, but the black area was much less deeply charred and the yellow area was less uniformly and more lightly scorched. The imbedded grains were perceptible throughout the black and extended farther into the yellow area, and were from seventy-five to one hundred in number. Though the number of grains was undoubtedly greater in the second experiment, many in the first may be assumed to have been concealed in the more deeply charred surface. In the first case seven, and in the second eight, grains penetrated to the subcutaneous tissue.

In a similar observation made with a bullet of 0.38 calibre, at a range of six inches, a piece of normal skin from the mammary region was shot with a new cartridge a minute and forty seconds after its removal from the body. The area of smoke and grains was two inches and a half by two inches in diameter, the wound of entrance an eighth of an inch in diameter, inverted, and lead stained, and the skin slightly scorched in an area of half an inch by five eighths of an inch, and at a distance of half an inch from the wound. The number of grains imbedded was about two hundred. After ablution, the scorching of the skin was barely perceptible and in diminished area; the smoke stain and about twenty-five per cent. of the grains were removed; and it was found that no grains had perforated the skin. Five days later the same piece of skin, which had been refrigerated, was shot with the same pistol and a bullet of the same calibre, and at the same range. The area of smoke and grains was two inches in diameter; the skin was scorched in an area of half an inch, extending from the wound of entrance, which was lead stained; the number of grains imbedded was about the same as before, or possibly a little less, and not more than ten per cent. was removable by washing; no grains perforated the skin; and after washing no evidence of burn remained except an apparent slight loss of epidermis.

These and similar experiments show that the living skin is rather less penetrable by powder grains than the dead, and rather more susceptible to burn.

A reference was made by several of the medical witnesses to cases of contact wound, which they had seen in the living subject, as being confirmatory of their experimental observations. The pertinency of these cases is open to question: first, because there is no very particular reason to suppose that they were either observed or noted with the care which is essential to their value as evidence; second, because they could be classed as contact wounds only by inference founded upon certain changes in the structure and appearance of the parts which are assumed to be characteristic, the very point which it is sought to prove.

The solubility, to some extent at least, of powder or of the products of its more or less perfect combustion in blood as well as in aqueous fluids is so easily demonstrable that it would seem there could be no doubt about it; and what evidence there may be which could justify a statement either that it will dissolve in the brain in a specified time of ten minutes, or that no part of it will dissolve at all, it is impossible to conceive.

There are other matters of testimony which might well be questioned if their influence upon the result demanded or time permitted. Passing reference to a single one of these, however, should be made, as it involves a remarkable negation of an established chemical fact. It was asserted by the State that carbon is one of the products of the combustion of gunpowder, and charcoal deposits in the tissues were described as characteristic of certain experimental shots. As a matter of fact, carbon is not recognized by authoritative writers as a resulting product of such combustion. Noble and Abel * found it to exist in the solid residue only in potassium combinations, and its remainder in gaseous forms. Bruff and others, the highest authorities in ballistics, have arrived at practically the same results. Such inferences and contentions, therefore, as were founded upon this chemical error must be held to be without warrant.

The examination of the expert witnesses was prolix and minute to a degree which seems to have been unnecessary if it were simply intended to determine from experimental observations the range at which the wound in question was inflicted. Days were devoted to the exploitation and criticism of experimental results which were accepted as pertinent, though obtained by the use of substitutes for the human tissues to which these structures were utterly unlike. Much time was occupied in the consideration of certain minute differences possible in the conditions of experiment, while others which were inevitable and equally important were ignored. Trivial variations were unduly magnified, and the significance of facts was sometimes depreciated or obscured by much insistence upon an explanation of the manner of their production. Such errors in procedure and in the estimation of values naturally resulted from a lack of previous experience in this particular line of investigation, and to some extent perhaps from the nature of the professional training of the gentleman directly in charge of the work of experimentation. The rigid processes of chemical analysis which deal with infinitesimal and ultimate atoms, and which reach attenuated conclusions with mathematical precision, have no counterpart in the broader generalizations of surgical diagnosis, in which no elements are absolutely fixed, and in which at most the limits of variation alone can be made certain.

In this review of the medical evidence adduced in a protracted case it is believed that no point of considerable importance has been left uncovered. The conclusion seems to be inevitable that the effort of the prosecution to show that the wound was of necessity homicidal absolutely failed. It had to be proved that the conditions which the wound actually presented were such that it was not only improbable, but impossible, that they could have been produced at any range at which a suicidal shot could have been fired.

The reasons for this failure, which have been already incidentally stated, may be recapitulated and summarized as follows:

The repeated disturbances, ablutions, and examinations to which the body was subjected had changed to an unknown extent the distinctive characters of the original lesions by which alone range can be estimated. The basis of the whole process of investigation was consequently defective.

The experimental observations made for the purpose of interpreting these lesions were in greater part upon substances dissimilar to the human body and in which the conditions of experimentation were not even approximately comparable; while the number made upon the cadaver and upon the human head, which alone were strictly relevant, was too small to justify the wide generalization which was required.

The deductions, made either directly or by implication, from these experiments were in many instances erroneous, as demonstrated by more extended experimentation.

The hypothetical question in which the medical evidence was presumably summarized, though it had been proved that suicide in this case was practicable at any range less than six inches and a half, was confined to the possibility of a contact shot; and in this question the singeing of the hair and the condition of the subcutaneous tissues, which are of vital importance, were ignored, so that as propounded the question was incapable of categorical answer.

No formal effort was made to prove that the shot was not fired at any intermediate range less than six inches and a half, which, conformably to a premise established by the prosecution, would have been equally compatible with a theory of suicide.

The assertion that the same results were obtained in every instance at a range from contact to four inches was not justified by the few observations made, and is fully controverted by an adequate number of experiments made not only with this calibre but with various other calibres of pistol.

No adequate or successful effort was made experimentally to reproduce the conditions which had been found to exist in and about the wound in question.

It is for these several reasons that the attempt to prove by expert medical evidence the necessarily homicidal character of the wound was not only unsuccessful, but did not even establish a probability that murder was done. It was proved, if anything was proved, that the range of shot was within that limit within which either murder or suicide is possible, and the case was left where this evidence began, dependent for its solution upon the history of circumstance.

The expert testimony, it is said, still served the legal purpose of the prosecution; the accused was convicted of murder, and largely upon these speculations founded upon an imperfect knowledge of the original lesions and supported by an inadequate and therefore misleading

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* *Philosophical Transactions*, p. 1, 1875, and p. 1, 1880.

series of experimental observations. Three circumstances seem to have contributed to the result: (1) the fact that erroneous statements or deductions were not fully controverted; (2) the fact, not peculiar to this case, that the value of technical evidence was beyond the comprehension of the jury; and (3) the fact that, while the expert witnesses for the State were unassailed, those of the defense were discredited by attacks both upon their personal honesty and upon their professional capacity. It is but proper to state that these attacks made upon the medical gentlemen who appeared for the defense were not justified by the nature of their testimony, or by any evidence introduced to impeach either their personal or their professional character.

In the course of the special experimental observations made in connection with the review of this case it became of interest to note at what range, if any, within the limit of six inches and a half the appearances presented corresponded with those of the wound in question. One hundred and twelve observations were made in which shots were fired at human heads with the Colt's revolver of 0.30 calibre, of the same type and date of manufacture, and having the same measurements as the one with which the suicide or the alleged crime was committed. Eighty-six of these were practically complete, and twenty-six were confined to the further elucidation of facts which were regarded as most pertinent. All of the lesions to be interpreted were found to exist individually, or in combinations of two or more, in many instances and at various ranges from contact to five inches. In a single instance at a range of four inches they were all reproduced collectively in an experimental wound, and at this range generally the results attained were more conformable to the characters of the wound inflicted upon the head of the deceased than they were at any other. It is not claimed that the fatal shot was fired at that distance, but it may be held as proved from the subcutaneous conditions attested that it was not fired at contact; and from the burning of the hair, that the distance was not more than five inches. It is merely a presumption that the range was approximately four inches.

Therapeutical Notes.

Canada Balsam in the Treatment of Cystitis.—Mesnard (cited in the *Klinisch-therapeutische Wochenschrift* for October 22d) recommends the following pills:

℞ Canada balsam	300 grains;
Calcined magnesia	405 "
Powdered soap, Powdered benzoin, } each	a sufficiency.

M., ft. massa in pil. No. c div.
S. From four to six pills daily.

An Antiseptic Gargle.—*Riforma medica* for September 4th ascribes the following to Escat:

℞ Salol	15 grains;
Alcohol at 90°, Glycerin, } of each	750 "
Boiled water	6,000 "

M.

For Constipation.—R. C. Fisher (*Texas Medical News*, August; *Monthly Cyclopædia of Practical Medicine*, October) says that in the treatment of habitual constipation the good derived from cascara sagrada will depend upon the mode of administration; if given as a cathartic and only when necessary to unload the bowel, it fails to accomplish the desired end; but when given in small doses for its tonic effect upon the lower bowel, a much better result may be expected. As the bile is always found deficient in constipation, it becomes necessary to combine some cholagogue with the cascara; the following preparation of corrosive sublimate, cascara sagrada, and strychnine is of value:

℞ Corrosive sublimate	1½ grain;
Sulphate of strychnine	1 "
Distilled water	1 ounce;
Fluid extract of cascara sagrada	4 ounces;
Glycerin...... sufficient to make	8 "

M. S.: One teaspoonful, more or less, two or three times a day, to maintain one action from the bowels each day; an initial purge should be given. The patient should be instructed to find the minimum amount necessary to produce one healthy stool each day and then continue this for some time. A certain time in each day must be selected for the evacuation of the bowels.

For Flatulent Dyspepsia.—*Riforma medica* for September 7th gives this prescription:

℞ Pure fluoride of ammonium	15 grains;
Distilled water	4,500 "

M. A tablespoonful after every meal.

An Ointment for Alopecia Areata.—The *Journal de médecine de Paris* for August 20th gives the following prescription as Balzer's:

℞ Mercury subsulphate	5 parts;
Flowers of sulphur	4 "
Oil of cade	15 "
Vaseline	30 "

M. To be applied to the bald spots at bedtime.

For Diabetes Mellitus.—Dr. J. M. Allen (*Journal of the American Medical Association*, October 28th), in a paper read at the last meeting of the association, says that he has used the following combination with apparent benefit:

℞ Creosote	⅓ drop;
Tincture of nux vomica	10 drops;
Saw palmetto	1 drachm.

M.

The Treatment of Hypertrophied Tonsils.—*Riforma medica* for September 4th recommends:

℞ Resorcin	75 grains;
Water	15,000 "

M.

or—

℞ β-naphthol	7½ grains;
Water	15.000 "

M.

Abundant hot irrigations therewith to be employed morning and evening.

THE
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CHINESE RINGWORM.

THIS is not a disease that prevails in this part of the world, so our home practitioners are not likely to come in contact with it, but, in view of our recent territorial acquirements in the Pacific Ocean, some knowledge of it will be useful perhaps to physicians who may go to our new islands either in a military capacity or with a view to private practice. Although the disease is generally known as Chinese ringworm, it is called tokelau by the natives of the islands where it prevails. Manson has given it the name of tinea imbricata, and Turner that of herpes desquamans. It occurs about the Straits of Malacca and on the islands of the Malayan Archipelago, and is characterized by desquamation of the cuticle in the form of concentric flakes which present free edges toward the centre of the patch, while toward the circumference they are firmly attached. This description is taken from Dr. Edward B. Bronson's contribution on the subject to Foster's *Encyclopædic Medical Dictionary*. Dr. Bronson refers the reader for further information to the *Medical Report of the Imperial Chinese Maritime Customs* for 1879.

A medical officer of the French navy, Dr. Tribondeau, has made an exhaustive study of the disease (*Archives de médecine navale*, July; *Lancet*, September 16th), and is not inclined to class it as a tinea—that is, he does not regard the parasite as a trichophyton. He proposes for the organism the name lepidophyton (from λεπίς, a fish scale, and φυτόν, a plant). It appears that chrysophanic acid is a sovereign remedy for the disease, as is thus set forth in a passage translated by the *Lancet* from Dr. Tribondeau's article: "In 1889 a native who formed one of a group of Tahitians sent to the Universal Exhibition of Paris, being covered with squamous scales wished to take advantage of his sojourn in France by getting rid of his tokelau. He entered a hospital where they began the essay of a whole series of remedies without producing any permanent impression on the tenacious parasite. At last an ointment of chrysophanic acid brought it to reason. Returned to Tahiti, the patient gave the curative formula to an apothecary at Papeete. The ointment in every case acted like a charm, and if the disease still exists it is because the people affected are too lazy to submit to a complete destruction of the lepidophyton. It is, however, permissible to hope that in a few years tokelau will have become a disease of the past."

ETHER *VERSUS* CHLOROFORM.

IN few if any of the fields of therapeutics has more improvement been manifested during recent years than in the induction of anæsthesia, whether general or local. We have now at our command a multitude of anæsthetics, each reasonably safe if properly handled and each suited to meet some special requirement. Nevertheless, the old question of the comparative merits of ether and chloroform has still to be argued. Perhaps it will never be settled to everybody's satisfaction until some anæsthetic is brought forward that shall prove as agreeable as chloroform and far less dangerous. The genius of the late Sir James Y. Simpson, who introduced the use of chloroform, gave that agent such a vogue that, except in the United States, it soon came to be considered as the one agent to be used when anæsthesia was to be induced. By many persons, indeed, Simpson was believed to be the discoverer of anæsthesia itself. Chloroform, as everybody knows, is not at all disagreeable to take, while ether, administered unskillfully, is exceedingly unpleasant to all concerned. Deaths due to chloroform are not frequent, after all, and in rare instances death has been caused by ether. It can not be said, then, that ether is absolutely safe and chloroform extremely dangerous; we must never lose sight of the unquestionable fact that a state of profound anæsthesia, however induced, is dangerous in itself. This consideration, however, does not free us from the obligation to choose the safer of the two agents unless there is some special circumstance that makes it less suitable in a given case.

The art of giving ether properly should be more cultivated than it ever has been. True, the asphyxia and spasmodic rigidity of bygone times are now rarely witnessed, but the distressing sense of impending suffocation, the wild determination to break loose from the anæsthetist's control, and the consequent waste of strength on the part of the patient and on that of those who have him in charge are still too frequently experienced. There are very few men who know how to give ether in such a way as to avoid its unpleasant action, but their number is growing, and it seems to be only a question of time when chloroform will be shorn of its superiority on the score of its rapid and easy induction of anæsthesia. In some of the hospitals of New York remarkably satisfactory results are achieved by beginning the anæsthetization with nitrous oxide and continuing the anæsthesia with ether. There are various modifications of the process, including the use of oxygen, and these procedures are still properly regarded as in the experimental stage. It is certain, however, that some of them will not be long in coming into general use in hospitals, and we feel sure that we may trust to the ingenuity of our experimenters to adapt them to general employment in private practice. We have been led to these remarks by reflecting upon Dr. Kemp's article, the first part of which we publish in this issue. We think the article should be carefully studied by our readers, as well as Professor Thomson's remarks, which will appear with the conclusion of Dr. Kemp's.

QUACKERY IN WEST VIRGINIA.

Although the State of West Virginia has a stringent law denying the right of practising medicine to all persons who have not a license as the result of passing the State examination, there are many quacks there who seek to evade the law on the plea that they are not practitioners of medicine. Prominent among them are the "osteopathists," who profess to treat all diseases by manipulation, and claim immunity from the medical practice law on the ground that they do not write prescriptions, administer drugs, or perform surgical operations. Common sense gives the lie to their contention, and judicial decisions have done the same. The *Clarksburg News* cites the opinion of Judge Thompson, of Kentucky, who has defined the practice of medicine as the application or employment of "that branch of science which relates to the prevention, cure, or alleviation of diseases of the human body." Moreover, the very statute which these "osteopathists" are defying includes "manipulation or other expedient" among the acts that constitute medical practice. It can not be granted that there is any reasonable ground for the contention that the practice of "osteopathy" is not the practice of medicine, and the same must be said of "Christian Science," "faith-healing," and all the other delusions under cover of which the harpies that prey upon the credulous seek to elude the requirements of the law.

We are glad to see that a committee on illegal medicine appointed a few months ago by the medical society of the State of West Virginia is performing its duty energetically. The committee consists of Dr. W. P. Goff (chairman), Dr. T. M. Hood, Dr. C. S. Hoffman, Dr. N. S. Myers, Dr. V. T. Churchman, Dr. T. L. Barber, Dr. W. H. Sharp, and Dr. T. A. Harris. On September 7th the committee authorized its chairman to send a circular letter to every physician in the State asking him to contribute a dollar to a fund for procuring counsel and meeting other expenses incident to enforcing the State medical laws. Chairman Goff informs his professional brethren that the physicians of West Virginia are making "a determined fight against all forms of quackery." While they are not criticising any "system" of medicine, they are seeking to compel all practitioners of medicine to conform to the law. They properly insist that the employment of any agency purporting to prevent, cure, or alleviate disease constitutes medical practice, and they ask members of the profession in other States to furnish them with court decisions bearing directly or indirectly on the question of whether or not they are right in their contention from the legal point of view. Dr. Goff, who lives in Clarksburg, asks that, if practicable, such material be sent to him through the United States Express Company, and adds that he is willing to pay all expenses connected with procuring evidence of this character. We would urge all our readers to exert themselves to assist the physicians of West Virginia in their most commendable endeavor to purge the State of quackery, and we believe there is no better way of doing so than by furnishing Dr. Goff with the evidence he asks for.

MENTAL ALIENATION AND PHYSICAL AILMENTS.

As a set-off against the post-operative psychoses of which we have heard so much of late, comes a report by Mr. J. Paul Bush (*Bristol Medico-chirurgical Journal*, September) recording Some Unusual Operations on Lunatics, with their Results. The cases are five in number: Ingrowing toe nails, vesical calculus, uterine fibroid, peritoneal abscess consequent on perforating gastric ulcer, and the extraction of swallowed pins from the stomach. The special points in these cases are, first, that the cases were consecutive and not picked; secondly, that the mental alienation was manifest in all the patients for months or years before the condition demanding surgical intervention was present; thirdly, mental improvement in each case began shortly after the operation, and this improvement continued till apparently the brain was restored to a healthy state, and so continued up to the date of writing. These cases differ from others recently reported by gynæcologists in which operative measures were followed by mental improvement, upon which cases they have based a recommendation for thorough pelvic examination in all cases of mental alienation in women, inasmuch as no relation of cause and effect is suggested between the physical and mental conditions. But one thing is certain, viz., that these three conditions—psychoses following and apparently determined by operative procedure in healthy patients, mental alienation seemingly consequent on physical conditions and removable with their removal, and the disappearance of preexisting psychoses immediately following operative procedures for apparently subsequent and unconnected physical ailments—emphasize in a marked degree the necessity for a more complete and systematic study of the interrelations of mind and matter.

PREPARATIONS MADE FROM BLOOD.

The idea of making use of blood or some element of the vital fluid as a reconstituent medicine commends itself naturally, as is shown by the old practice of drinking bullock's blood, but Dr. W. Rosenstein (*Deutsche medicinische Wochenschrift*, 1899, No. 17; *Centralblatt für innere Medicin*, October 14th) thinks that it rests on a false assumption, for it has not been shown that the iron of blood is absorbed from the stomach. Blood preparations can prove effective, he says, only when given by intravenous or subcutaneous injection, and neither of those methods of administration is suitable for general use.

A HYGIENIC CRUSADE AGAINST BUGS AND FLEAS.

The extermination of fleas and bugs in France is urged by the *Gazette médicale de Paris* (cited in the *Province médicale* for September 30th) on the ground that, on the authority of Dr. Simond, a medical officer of the navy, they are largely instrumental in spreading the plague. If the appearance of the plague on the frontier between France and Portugal leads to the wholesale destruction of these insects, the visitation will not have proved an unmitigated evil.

INTER-STATE RECIPROCITY CONCERNING THE LICENSE.

The Detroit movement in favor of reciprocity among the States in the matter of granting the license to practise medicine shows gratifying signs of activity. We learn that it has already been indorsed by the State medical societies of Vermont, Idaho, and Utah and by the Illinois State Board of Health. In their circulars the committee explain that they do not expect any examining board to lower its requirements. That, of course, is not to be thought of; adjustment must lie in a scaling upward, not downward.

A GIGANTIC LITERARY ENTERPRISE.

Some years ago Kuhn edited the works of a number of the best-known classical writers on medicine, in twenty or more huge volumes. That was properly regarded as a great undertaking, but it seems likely to be eclipsed by one now in progress in Greece under the direction of Dr. Phoustanos. We learn that this new edition will be in sixty volumes, that there are engaged in its preparation physicians of various parts of Europe, and that the editor expects to get American cooperation also.

THE FUNCTIONAL CAPACITY OF THE RETAINED TESTICLE.

Mr. B. Smith (*Guy's Hospital Reports*, liii; *Centralblatt für Chirurgie*, October 21st) seems to have made considerable additions to our knowledge concerning the functional capacity of retained testicles, founded on a study of fifteen cases. He finds that before puberty the retained testicle not only is abnormally small, but shows signs of defective development in the size and number of the seminiferous tubules. Even at puberty such a testicle does not usually reach a normal development and has no functional capability. It is only in exceptional instances that it approximates the normal development. In one case, however, Mr. Smith found evidence of spermatogenesis. Even in the more favorable instances premature senile degeneration soon sets in. Nevertheless, for a short time after puberty cryptorchidism is not incompatible with procreative power.

"ASCITES OF THE LIVER."

This is the cause assigned by one of the daily newspapers for the death of a city official. Perhaps the term, though probably not to be found in the books, is expressive enough.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending November 11, 1899:

DISEASES.	Week ending Nov. 4.		Week ending Nov. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	75	18	56	17
Scarlet fever	108	8	109	6
Cerebro-spinal meningitis	0	6	0	9
Measles	180	9	262	10
Diphtheria	224	24	248	37
Croup	3	5	11	4
Tuberculosis	139	135	172	148
Small-pox	0	1	1	0
Chicken-pox	17	0	15	0

The Medical Association of the Greater City of New York.—A stated meeting was held on Monday evening, the 13th inst., at which the following papers were presented for discussion: The Therapeutic Application of Carbonic-acid Gas, by Dr. Achilles Rose (discussion opened by Dr. W. Freudenthal with remarks on the use of carbonic-acid gas in diseases of the nose and throat); and Remarks on Symphysiotomy, with a report of three cases, by Dr. Thomas Rutherford Savage, which was discussed by Dr. C. G. Barrows, Dr. E. B. Cragin, Dr. A. F. Currier, Dr. Austin Flint, Jr., Dr. E. A. Tucker, and Dr. E. E. Tull.

The Medical Society of City Hospital Alumni, St. Louis.—At the last meeting, on Thursday evening, the 16th inst., the following papers were read: Some Remarks on Dementia Paralytica, by Dr. Edward C. Runge; The Boldness with which General Practitioners not Living in Large Cities perform Laparotomies, by Dr. Ralph A. Reder; and Observations on Certain Early Diagnostic Signs in Measles, by Dr. George Homan.

The Association of the Alumni of the New York Hospital will hold its next regular "smoker" in the administration building of the hospital on Monday evening, November 20th, at nine o'clock. Dr. D. B. St. John Roosa will read a paper on The History of the Hospital, and officers for the ensuing year will be elected.

The New York Infirmary for Women and Children, which, as our readers were informed some time ago, has ceased to be a degree-giving institution, announces special courses for women graduates and undergraduates in medicine. Full information may be obtained by addressing the secretary, Miss Wilde, No. 321 East Fifteenth Street, New York.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending November 11, 1899:

Small-pox—United States.

Chicago, Ill.	Oct. 27–Nov. 4	1 case.	
Ottumwa, Iowa	Oct. 1–7	1 "	
New Orleans, La.	Oct. 27–Nov. 4	1 "	
New York, N. Y.	Oct. 27–Nov. 4		1 death.
Cleveland, Ohio	Oct. 27–Nov. 4	2 cases.	
Nashville, Tenn.	Oct. 27–Nov. 4	1 case.	
Portsmouth, Va.	Oct. 27–Nov. 4	1 "	

Small-pox—Foreign.

Rio de Janeiro, Brazil	Sept. 30–Oct. 6	70 cases,	58 deaths.
Athens, Greece	Sept. 7–14	7 "	2 "
Bombay, India	Sept. 26–Oct. 5		6 "
Tamsui, Formosa, Japan	July 1–Aug. 31	36 "	1 death.
Chihuahua, Mexico	Oct. 21–28		3 deaths.
St. Petersburg, Russia	Oct. 7–14	4 "	1 death.
Warsaw, Russia	Oct. 7–14		3 deaths.
Erzeroum, Turkey	Oct. 1–7	2 "	1 death.
Smyrna, Turkey	Oct. 8–15		1 "

Yellow Fever—United States.

Key West, Fla.	Nov. 1–6	19 cases.	
Miami, Fla.	Oct. 31–Nov. 6	27 "	
New Orleans, La.	Oct. 28–Nov. 6	16 "	6 deaths.

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	Sept. 30–Oct. 6	5 cases.	4 deaths.
Havana, Cuba	Oct. 19–26	24 "	4 "
Vera Cruz, Mexico	Oct. 19–Nov. 2		6 "

Cholera.

Bombay, India	Sept. 25–Oct. 3		2 deaths.
Calcutta, India	Sept. 16–23		4 "
Kurrachee, India	Sept. 23–30	1 case,	1 death.

Plague.

French Ivory Coast, Africa	Sept. 16	Recurrence.	
Magudo, Lorenzo Marquez, Africa	Sept. 11–18	Recurrence.	
Bombay, India	Sept. 26–Oct. 30		93 deaths.
Calcutta, India	Sept. 16–23		47 "
Kurrachee, India	Sept. 23–30	4 cases,	3 "
Tamsui, Formosa, Japan	July 1–31	66 "	63 "
Asuncion, Paraguay	Sept. 14	Plague suspected. Has since been officially confirmed.	

The Late Dr. Edward Bleecker, of Whitestone, New York.—At a special meeting of the Flushing Hospital staff, held on November 6th, the following minute was unanimously adopted:

In the sad Providence which has removed from among us our late associate we hasten to record this tribute of our esteem and affection as a meagre memorial to his high character and sturdy manhood. Had Dr. Bleecker sustained no other relationships, his commanding position as a leader of men, his numerous and honorable official positions, and his wide sympathies with all that affected the people among whom his life was spent were enough to mark his career as aside and above that which falls to most men.

As his professional associates we add our hearty testimony to his varied and rare accomplishments as a physician. Removed at a time when all his powers were at the climax, wise in counsel, and always resourceful in expedient, he won our admiration and commanded our respect in emergencies where unfaltering courage could alone save life. To us his untimely death brings a sense of irreparable loss only less than to those of his immediate family. To them we extend our deepest sympathy in a bereavement that, after all, only time can assuage and heal.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 11th inst., Dr. J. B. Ross presented a paper in which he reported a case of adenocystoma hepatitis, with operation and recovery, and a case of polycystic degeneration of both kidneys.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Medicine, on Tuesday evening, the 14th inst., the following papers were presented for discussion: Protracted Pneumonia and Slow Resolution, by Dr. John H. Pryor; and The Hygiene of the Asthmatic, by Dr. George N. Jack, of Depew, New York.

The New York Polyclinic.—We are informed that Dr. Morris Manges has been appointed professor of general medicine.

The Society of Medical Jurisprudence.—At the last regular meeting, on Monday evening, the 13th inst., Dr. Hugh Hamilton, of Harrisburg, Pennsylvania, presented a paper entitled The Medico-legal Autopsy; a Plea for Medical Precision and Legal Recognition.

Changes of Address.—Dr. J. F. Connors, to No. 117 West Eighty-third Street, New York; Dr. Evelyn Garrigue, to No. 18 West One Hundred and Third Street, New York; Dr. J. B. Gerl, to No. 181 West Eighty-seventh Street, New York; Dr. Ernest L. Hicks, to No. 46 West Eighty-third Street, New York; Dr. R. S. Hinsdall, to No. 1842 Seventh Avenue, New York; Dr. L. M. Hubby, to No. 40 West Eighty-fourth Street, New York; Dr. L. M. Hurd, to No. 19 East Thirty-eighth Street, New York; Dr. L. M. Maduro, to No. 111 West One Hundred and Twenty-first Street, New York; Dr. William B. McCracken, to No. 329 South Broadway, Yonkers, New York; Dr. J. J. Morehead, to No. 54 West One Hundred and Fourth Street, New York; Dr. H. H. Rodman, to No. 2 West Eighty-eighth Street, New York; Dr. T. A. Smith, to No. 102 West Seventy-fifth Street, New York; Dr. George W. Talson, to No. 129 West Ninety-fifth Street, New York; Dr. J. S. Waters, to No. 48 East Eighty-third Street, New York; Dr. E. N. Wilcox, to No. 43 West Seventy-fifth Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 4 to November 11, 1899:*

BRADLEY, ALFRED E., Major and Surgeon, United States Volunteers (Captain and Assistant Surgeon, United States Army), having tendered his resignation, is honorably discharged.

COONEY, DANIEL C., Acting Assistant Surgeon, will report to the acting chief surgeon for duty in the office of the chief surgeon.

EBERT, R. G., Major and Acting Chief Surgeon of the Department, will proceed to Portland, Oregon, and make a thorough sanitary inspection of the United States transport *Lennox*.

GREENLEAF, CHARLES R., Colonel and Assistant Surgeon-General, United States Army, will proceed to Manila for duty as chief surgeon of that department.

MOORE, HARRY S., Acting Assistant Surgeon, United States Army, will proceed to Jefferson Barracks, Missouri, to accompany the Forty-ninth Infantry to the Philippine Islands.

PITCHER, GEORGE S., Acting Assistant Surgeon, will report to the commanding officer of the Forty-third Infantry to accompany that command to the Philippine Islands on the transport *Meade*.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending November 11, 1899:*

BRODRICK, R. G., Passed Assistant Surgeon. Ordered to Washington for examination for retirement, and then home to await orders.

COSTIGAN, G. D., Passed Assistant Surgeon. Promoted to passed assistant surgeon.

EAKINS, O. M., Assistant Surgeon. Ordered to the Naval Academy.

HENEBERGER, L. G., Surgeon. Detached from the *Indiana* and ordered home to await orders.

MARMION, R. A., Medical Director. Promoted to medical director.

NORTON, O. D., Surgeon. Detached from the *Ranger* and ordered to the *Monadnock via* the *Solace*.

ODELL, H. E., Assistant Surgeon. Detached from the Naval Hospital, Mare Island, California, and ordered to the *Ranger*.

SIMONS, M. H., Medical Inspector. Promoted to medical inspector.

SMITH, R. K., Passed Assistant Surgeon. Detached from the Naval Hospital, New York, and ordered to the Naval Hospital, Mare Island, California.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending November 9, 1899:*

CARTER, H. R., Surgeon. To proceed to Miami, Florida, for special temporary duty.

SMITH, A. C., Passed Assistant Surgeon. Relieved from temporary duty at the Tortugas Quarantine Station and directed to proceed on the steamer *Powhatan* to the Reedy Island Quarantine Station.

NYDEGGER, J. A., Passed Assistant Surgeon. To report at Washington for special temporary duty. Granted leave of absence for six days. To proceed to Cadiz, Spain, for duty.

SPRAGUE, E. K., Passed Assistant Surgeon. Granted leave of absence for two days.

GREENE, J. B., Assistant Surgeon. Granted leave of absence for twenty-one days.

TABB, S. R., Assistant Surgeon. To rejoin station at Savannah, Georgia.

ANDERSON, J. F., Assistant Surgeon. Granted leave of absence for four days. To proceed to Barcelona, Spain, for duty.

FRICKS, L. D., Assistant Surgeon. Relieved from special temporary duty at Key West, Florida, and directed to proceed to Miami, Florida, for temporary duty.

SCHERESCHEWSKY, J. W., Assistant Surgeon. To report to Surgeon L. L. WILLIAMS, Immigration Service, New York, for assignment to duty.

LORD, C. E. D., Assistant Surgeon. To report to the medical officer in command, New York (Stapleton), for temporary duty and assignment to quarters.

GREGORY, G. A., Acting Assistant Surgeon. Granted leave of absence for five days.

MONCURE, J. A., Acting Assistant Surgeon. Granted leave of absence for thirty days from November 15th.

GOODMAN, F. S., Hospital Steward. Granted leave of absence for thirty days from December 1st.

Promotion.

GREENE, J. B., Assistant Surgeon, commissioned as passed assistant surgeon.

Appointments.

SCHERESCHEWSKY, JOSEPH W., of Massachusetts, and LORD, CHARLES E. D., of Maine, commissioned as assistant surgeons.

Society Meetings for the Coming Week:

MONDAY, *November 20th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *November 21st:* New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, New York, Medical Association; Syracuse, New York, Academy of Medicine; Medical Societies of the Counties of Chemung (quarterly), Kings, Livingston (quarterly), and Westchester (quarterly), New York; Baltimore Academy of Medicine.

WEDNESDAY, *November 22d:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society.

THURSDAY, *November 23d:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

FRIDAY, *November 24th:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *November 25th:* New York Medical and Surgical Society (private).

Births, Marriages, and Deaths.

Married.

BAILEY—BLACK.—In Jobstown, New York, on Saturday, November 11th, Dr. Pearce Bailey, of New York, and Miss Edith Lawrence Black.

BISHOP—GRUNER.—In New York, on Tuesday, November 14th, Dr. Louis Faugères Bishop and Miss Charlotte Gruner.

CULVER—VAN DER BEEK.—In Jersey City, on Thursday, November 9th, Dr. Darwin Le Roy Culver, of New York, and Miss Eleanor Van der Beek.

DE YO—DONOGHUE.—In Washington, on Wednesday, November 1st, Mr. Herbert L. De Yo and Miss

Helen Prentice Donoghue, daughter of Dr. Florence Donoghue.

Gardner—Atkinson.—In Baltimore, on Thursday, November 2d, Mr. Philip Gardner and Miss Virginia Atkinson, daughter of Dr. Isaac E. Atkinson.

Jordan—Baker.—In Brooklyn, on Wednesday, November 8th, Dr. Charles Simonton Jordan, of Asheville, North Carolina, and Miss Harriett Baker.

Manson—Dam.—In New York, on Thursday, November 9th, Dr. Charles A. Manson and Miss Grace Wallace Dam.

Shulman—Goodman.—In New York, on Wednesday, November 8th, Dr. Alexander Shulman and Miss Nellie Goodman.

Trenwith—McGibbon.—In New York, on Wednesday, October 18th, Dr. W. D. Trenwith and Miss Edith Blanche McGibbon.

Died.

Hastings.—In Brookline, Massachusetts, on Friday, November 3d, Helen Gray Hastings, wife of Dr Robert W. Hastings.

Hoffman.—In Reading, Pennsylvania, on Wednesday, November 8th, Dr. Walter J. Hoffman, United States consul in Mannheim, Germany, in the fifty-third year of his age.

McCreery.—In New York, on Friday, November 10th, Dr. John A. McCreery.

Morris.—In New York, on Tuesday, November 7th, Mr. Simon Morris, father of Dr. Lewis Morris.

Upham.—In New York, on Friday, November 10th, Helen Upham, daughter of Dr. J. Baxter Upham.

Letters to the Editor.

MALARIAL AND TYPHOID FEVERS.

42 West Thirty-seventh Street, *November 4, 1899.*

To the Editor of the New York Medical Journal:

Sir: In your issue of to-day an article appears from the pen of Dr. William Osler, of Baltimore, entitled The Diagnosis of Typhoid Fever. In it I find the following reference to myself: "I have been scolded as too shockingly dogmatic on the subject, as some of you may remember, in a paper read a year or so ago by my friend, Dr. Beverley Robinson, but I protest that, dogmatic as I have been, I have not been dogmatic enough. Had we teachers throughout the country been more persistently dogmatic, the profession might have been spared the mortifying exhibition of last year. But, as for so many of us, so for Dr. Robinson, there is no possible satisfaction in this respect until born again of the microscope and a prolonged course of study of the genuine disease." Following this, Dr. Osler writes: "Two clinical rules should guide practitioners above Mason and Dixon's line: 1. An intermittent fever which resists quinine is not of malarial origin. 2. In these localities a continued fever is not due to malarial infection." I dissent formally from both these propositions laid down in this absolute manner. The reading again carefully of my paper in the New York *Medical Record*, January 15, 1898, pp. 73–77, will show the proofs of my position. I beg leave to inform Dr. Osler, as I have tried to do already, that I have had the kind service of several thoroughly competent microscopical experts in my clinical observations. I do not, therefore, consider it essential to be "born again of the microscope" so as to establish my rights to hold conservative and, I believe, correct views. "*In medio tutissimus ibis!*"

Beverley Robinson, M. D.

P. S.—Perhaps the microscopes of New York are *not* so good as those of Baltimore! I am sure Dr. Osler would hardly gainsay the physicians *are*. B. R.

CHLORETONE AS A HYPNOTIC AND ANÆSTHETIC.

Detroit, *November 3, 1899.*

To the Editor of the New York Medical Journal:

Sir: We would respectfully direct your attention to an erroneous statement in the editorial which appears on page 631 of the *New York Medical Journal* for October 28, 1899, Chloretone as a Hypnotic and Anæsthetic. We refer to the last sentence in the second paragraph, as follows: "Like all other drugs of its class, it is not devoid of dangerous properties; excessive doses prove fatal."

We would respectfully urge that this quoted statement is an injustice to us and to our product, since one of its particular merits resides in the fact that chloretone exerts no depressing action on the heart and that it is indeed *wholly* "*devoid* of dangerous properties." We suppose that it would be possible to give a man enough chloretone to kill him, but we know of one authentic case in which the patient took one hundred and eight grains of chloretone—thirty-six tablets of three grains each—inside of a few hours. As a natural result, he slept for three days; for two days more he remained more or less under the influence of the drug; but his recovery was complete and he did not experience the slightest untoward effect. The physician whose patient took the enormous dose of chloretone is a reputable Detroit practitioner, and he sent a report of the case to the *Therapeutic Gazette*, where it will presently appear.

In our biological department we have given to dogs from 0.2 to 0.25 gramme per kilo. of body weight, keeping the animal under the influence of chloretone for several days and as long as a week at a time. The animal then emerges from the prolonged hypnosis without the slightest trace of untoward action, and subsequently appears to be in the best of health and spirits.

In the inclosed verbatim reprint of the paper contributed by Dr. Houghton and Dr. Aldrich to the *Journal of the American Medical Association* you will look in vain for the statement that chloretone "is not devoid of dangerous properties," or that "excessive doses prove fatal."

We feel assured that no intentional injustice was done us, and we leave the matter in your hands for such correction as ought in fairness to be made.

Parke, Davis, & Co.

⁂ It was with no intention of doing "injustice" to Messrs. Parke, Davis, & Co.'s drug that we wrote as we did, but rather in a full sense of the duty of always warning the reader of the dangerous qualities possibly residing in any powerful agent that has not been used extensively in actual practice. We believe that there exists no drug capable of producing profound hypnosis which is utterly devoid of danger. In this particular instance it seems to us that we were specifically warranted in our comment (which did not purport to be quoted) by the following statement in the reprint kindly sent to us by Messrs. Parke, Davis, & Co.: "However, when an extremely large quantity of the drug is administered, the animal remains completely insensible for several days, the respiration becomes slower and weaker, finally ceasing altogether, the sleep of anæsthesia terminating in the sleep of death."

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

(*Continued from page 719.*)

XLV.

PRIVILEGED COMMUNICATIONS.

Privileged Matter Generally.—Upon the broad and urgent ground of *public policy* certain matters are held so sacred in the eyes of the law that one can not be compelled to disclose his knowledge relative thereto, even as a witness in a court of justice. Matters of this sort may be generally classified as follows:

I. POLITICAL MATTERS.—Under this head are included state secrets, official transactions and communications between the heads of departments of state and their subordinate officers, and all like communications.

II. JUDICIAL MATTERS.—Herein are included proceedings in the jury room, consultations of judges, and the like.

III. PROFESSIONAL COMMUNICATIONS.—Under this head are included all communications between client and counsel or attorney necessarily made for the purpose of securing professional services or assistance; communications between patient and physician or surgeon necessary to secure proper professional treatment; and all confessions or communications of like character made to one's spiritual adviser.

IV. SOCIAL MATTERS.—Under this head are included all communications of a confidential nature made between husband and wife.

Professional Communications at Common Law.—At common law the protection accorded to professional communications was in its scope very limited, applying only to the legal profession, nor does the protection which that profession enjoyed seem to have been as full and adequate as that now accorded to it by the courts and legislatures.[*] The medical [†] and clerical [‡] professions were both outside of the protection of the common law, both of England and the United States, and whatever privileges of protected professional confidence they now enjoy are expressely conferred by statute.

Statutory Protection to Communications between Physician and Patient.—In recognition of the importance of a full and absolute confidence existing between physician and patient in all matters of professional intercourse, the legislatures of about half the States [#] have passed wholesome laws which in effect assure the patient that the information necessarily imparted to secure proper and legitimate medical treatment shall not be wrested from the physician to whom he confided it, even in behalf of justice. The wording of the statutes upon the subject, as enacted by the several States, varies considerably; in New York, which was probably one of the first States to recognize the need of this sort of protection to the physician and patient by legislative enactment, the law in force provides that:

"A person duly authorized to practise physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity."[*]

The restraining clause that the "physician or surgeon shall not be allowed to disclose any information, etc.," is reenacted almost *verbatim* in the States of Iowa, Michigan, Pennsylvania, and Nebraska; the majority of the States having statutes upon the subject impose practically the same restriction by using the expression that the physician "shall not (or can not) be examined," [†] or "shall not be a witness," [‡] or "shall not testify."[#] The statutes of five States, to wit, Indiana, Kansas, Missouri, and Oklahoma, provide that a physician shall not be competent to testify as to information professionally obtained, while the statutes of three States, to wit, Arkansas, North Carolina, and Wisconsin, provide that the physician "shall not be required (or compelled) to "testify."

The statutes in several States expressly restrict the application of the protection to civil cases.[‖] Whether the protection of the statute in the absence of this restriction extends to criminal cases is a question which has been the subject of judicial decisions, which will be examined in their proper order.

The statute of North Carolina is subject to the provision that "the presiding judge of a superior court may compel such disclosure (of knowledge professionally obtained), if in his opinion the same is necessary to a proper administration of justice."

The privilege conferred by these statutes is primarily for the benefit of the patient, and he, therefore, either by his acts or by express consent, may waive the privilege and allow the physician to testify. By the statutes of several States [△] it is expressly provided that the privilege is waived whenever the patient voluntarily testifies regarding the subject matter of the same. The question of what acts shall in the absence of express statutory provision be considered a waiver of the privilege has been passed upon in a number of cases.

Communications with Unlicensed Physicians not Protected.—The statute usually provides that communications shall be protected when made to persons "duly authorized to practise," or to "licensed physicians or surgeons," or to "qualified physicians and surgeons." These statutes will therefore not protect communications of a confidential nature made to one not legally qualified to practise medicine, but who is exercising the functions of a physician; such a person, upon being called as a witness, may be required to disclose all information that he has gained from a patient, and the patient's protest will avail nothing.*

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[*] Duchess of Kingston's case, 11 Howell's St. Tr., 613.

[†] Rex *vs.* Gibbons, 1 C. and P., 97; Broad *vs.* Pitt, 3 C. and P., 518.

[‡] Butler *vs.* Moore, 1 MacNally, 253; Baker *vs.* Arnold, 1 Caine's Rep., 258.

[#] The following States have passed laws extending the privilege to professional communications between physician and patient: Arkansas, California, Colorado, Idaho, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, Utah, Washington, Wisconsin, Wyoming.

[*] Civil Code, § 834.

[†] California, Colorado, Idaho, Minnesota, Nevada, North Dakota, Oregon, Utah, and Washington.

[‡] Montana.

[#] Ohio and Wyoming.

[‖] The restriction to civil cases exists in California, Idaho, Minnesota, Montana, Oregon, Pennsylvania, Utah, and Washington.

[△] Kansas, Nevada, Ohio, Oklahoma, and Wyoming.

(*To be continued.*)

Pith of Current Literature.

What not to do in Acute Conjunctivitis.—Dr. Edward Jackson (*Denver Medical Times*, October) thus describes the things that should not be done:

First. A mydriatic should not be used for acute conjunctivitis. It is to be feared that in the domain of ocular inflammations too many physicians have imitated the celebrated rule about leading trumps, thus: "When in doubt, prescribe atropine." It is sometimes proper to prescribe a mydriatic in a case of acute conjunctivitis, but only for some complication, not for the conjunctivitis. The practitioner who feels some doubt as to whether the case is one of simple conjunctivitis or whether there is not some inflammation of the cornea or iris may reason that the former will get well anyhow, and that if there is keratitis or iritis the atropine is indicated. But if one can not decide exactly what is the condition present, he ought to bear in mind that it may be glaucoma, in which case the mydriatic might do serious permanent harm. A mydriatic, used in sufficient dose to be at all beneficial, is too powerful a drug to be resorted to except upon an exact diagnosis, and in conjunctivitis its influence is more likely to be harmful than beneficial. In a few susceptible patients, instillations of the ordinary mydriatic solutions produce violent outbreaks of conjunctivitis, with great swelling of the lids. More frequently they distinctly aggravate a preexisting conjunctival inflammation. They always produce dilatation of the pupil, blurring of vision, and a desire to shun the light, and even the enforced rest for the eyes that they will secure will not compensate for their unfavorable effects.

Secondly. Do no prescribe cocaine in these diseases. It has no curative power, and the period of temporary relief during the anæsthesia and contraction of the blood-vessels is followed by a period of increased vascularity and irritation. Cocaine may be used as a local anæsthetic in acute conjunctivitis, to lessen the pain of strong astringent applications. Yet, even for this use, holocaine is to be preferred. But if cocaine is added to a collyrium to be used by the patient, the temporary relief afforded is likely to lead to the frequent repetition of the application until very serious damage is done. Twelve years ago (*Transactions of the College of Physicians of Philadelphia*, June, 1887) the author reported a case in which sight was greatly damaged by opacity of the cornea under such treatment, and various other cases of harm from such a use of cocaine have been reported since. In some cases cocaine acts much like atropine, producing violent conjunctivitis.

Thirdly. Do not poultice the eye. There may be cases of ocular disease in which it is proper to use a poultice, but it is not proper in acute conjunctivitis. Sometimes, when one does not adopt a certain line of treatment, he never gets an opportunity to study its effects and revise his judgment. But it is not so in this case. The author has seen many eyes that have been poulticed for acute conjunctivitis, and every experience of the kind has left him more thoroughly satisfied that the eye was the worse for poulticing. It makes little difference of what the poultice is composed: scraped potato, raw oyster, bread and milk, flaxseed, corn mush, or tea leaves are about equally harmful. The latter article has been used so frequently that the "tea-leaf eye" is a well-recognized pathological entity. Its excessive, rather passive hyperæmia, swollen lids, photophobia, and macerated appearance are generally easily distinguished, and the prescribing of a placebo with the proscribing of the poultice are certain to bring about prompt improvement. It would seem unnecessary to caution you against the poultice, were it not that the practice seems to have such a firm hold with the laity as to indicate that it must still be advised by some doctors, and occasionally some one, speaking even as an ophthalmologist, recommends the poultice in such a general and indefinite way that the advice might be taken as applying to acute conjunctivitis.

Fourthly. Do not bandage or use any sort of compress. The effect of a bandage of any kind is, to some extent, that of a poultice. The patient may regard the bandage as evidence of the surgeon's care and the seriousness of the case. It may be important to impress the patient with the idea that you are doing all that can be done for him; but you should find some way of doing that without making the eye worse. Even in traumatic conjunctivitis, where rest is most important, the danger of infection overshadows all other dangers; and the bandage favors bacterial development so strongly that the culture test with it is recognized as the most searching practical test for pathogenic organisms in the conjunctiva. For similar reasons the compress is to be avoided. Even the ice compress, which is recommended by many authorities for gonorrhœal conjunctivitis, the author would avoid. He has used it. He has watched its use by others who thought they saw great benefit from it; but he has not so interpreted the results. Even its enthusiastic advocates agree that it must be promptly discontinued when signs arise of corneal involvement, and corneal involvement is the thing to be dreaded in gonorrhœal conjunctivitis. The cases without corneal involvement will get well anyhow, and the use of the ice compress does not tend to prevent it.

The author summarizes his entire paper as follows: 1. Acute conjunctivitis is not one but several diseases, the successful therapeutics of which rests on an exact diagnosis. 2. Possible eye strain should be considered in connection with every case not manifestly infective. 3. For all infective forms the most complete cleanliness of the conjunctival sac is the important measure. 4. Mydriatics or cocaine should not be prescribed for acute conjunctivitis. 5. To secure conjunctival cleanliness, all forms of poultice, bandage, and compress are to be avoided.

Tumors of the Pituitary Body.—Dr. G. L. Walton and Dr. Cheney (*Journal of Nervous and Mental Disease*, August), in a paper read before the American Neurological Association, arrive at the following conclusions: 1. Congenital peculiarities in growth resembling those of acromegaly, but occurring in otherwise healthy individuals, may point to structural defect of the pituitary gland, a defect sometimes furnishing the starting point for new growth later in life. 2. The occurrence of pituitary tumor without definite symptoms of acromegaly does not necessarily disprove a connection between this organ and this disease, for the persistence of even a small amount of healthy gland tissue is sufficient to carry on fairly the function of the pituitary body. 3. The combination of general symptoms of new growth with optic atrophy and loss of temporal field of vision makes the diagnosis of pituitary tumor almost certain. 4. Hemiachromatopsia is not necessarily of central origin.

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* Wiel *vs.* Cowles, 45 Hun, 307.

A Peculiar Case of Tetany.—Dr. F. Warren White (*Boston Medical and Surgical Journal*, November 2d) reports a case of tetany occurring in a boy three years and a half old in Boston. The features of special interest in this case were: 1. The limitation of the spontaneous contracture to the feet, which was rare, as the spasm almost always involved the hands, often the hands and feet at the same time. 2. The continuous character of the spasm, which was distinctly less common than the paroxysmal sort. 3. The short duration of the attack and the lack of any recurrence up to the present time, an interval of about two months.

"Functional" Heart Murmurs.—Dr. A. Jacobi (*American Medical Quarterly*, September) thus concludes a paper on this subject:

"1. The diagnosis of deranged function in any organ is only a makeshift and is justifiable only so long as we are ignorant of the physical cause of that derangement. That heart murmur is called 'functional' the anatomical cause of which we do not know. That is why a skilled diagnostician may recognize fewer functional murmurs than one who will not diagnosticate a heart disease unless he has all the symptoms, including dilatation and hypertrophy.

"2. The same disorders of the blood and nervous system in which heart murmurs are observed in the adult do not cause them in the small infant. In the latter the heart is larger, more robust, and more powerful, and its contractions are more uniform and effective; its two ventricles are equally muscular, or nearly so, and the valves are smaller. Thus the greater frequency of murmurs in the adult is attributable to the physical condition of his heart, and should not be explained by a deranged function.

"3. Even in the present limitation of our knowledge we should agree to call 'functional' only those murmurs which are temporary, or intermittent, or variable in their character. They are met with in the neurotic and neurasthenic, in the (adult) anæmic, sometimes in syncope or in chorea minor, and occasionally in rheumatism. Even here they should be recognized as myocardial or as neurotic."

Lenses for Both Far and Near Vision.—Dr. G. C. Harlan (*Indiana Medical Journal*, November) reminded the Section on Ophthalmology of the College of Physicians of Philadelphia that he had shown, about a year ago, a pair of bifocals made by Borsch in which the reading part was formed of a circular lens fifteen millimetres in diameter, made of flint glass and sunk into the distant lens, made of crown glass. The increased refraction of the small lens depended upon the higher index of flint glass, and its exposed surface was ground to the same curve as that of the larger lens. He had been in the habit of using these glasses in operating as well as in reading, and had found them entirely satisfactory. Recently Mr. Borsch had still further improved these lenses by burying the reading lens in the interior of the other, so that it was practically invisible. The large glass was split into halves, which were cemented together after the small one had been inserted between them. The glasses, which were exhibited, presented no indication of their method of construction, which was a veritable puzzle to the uninitiated. Dr. Thomson spoke in favor of the lenses, both from personal experience and that of his patients. He found that the position and shape of the small lens allowed one to walk, particularly up and down stairs, without difficulty.

Mechanical Support in the Treatment of Cardiac Asthma.—Dr. Abée, of Bad Nauheim (*Münchener medicinische Wochenschrift*, 1899, No. 37; *Deutsche Medizinal-Zeitung*, October 16th), taking a hint from the instinctive manual pressure made on the cardiac region by patients on the access of a paroxysm, has contrived a pad to be worn over the apex, to give continuous support. It is attached to a belt.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-first Annual Congress, held in Chicago, Monday, Tuesday, and Wednesday, May 22, 23, and 24, 1899.

The President, Dr. William E. Casselberry, of Chicago, in the Chair.

(*Continued from page 572.*)

A Report of Two Cases of Accessory Thyreoid Gland at the Base of the Tongue.—Dr. Arthur W. Watson read a paper with this title. (See page 579.)

A Case of Fibro-lipoma of the Tonsil, with Microscopic Section.—This paper was presented by Dr. Thomas Amory De Blois. (See page 622.)

Dr. John O. Roe, of Rochester: I recall a case of fibro-lipoma of the pharynx, a report of which I published three or four years ago, occurring in a woman about fifty-five years of age. It was a large tumor of about the size of a hen's egg and extended down behind the posterior wall of the pharynx, between it and the vertebral column, to a point opposite the arytænoid cartilages. It caused no ulceration nor breaking down of the tissues, but bulged forward so prominently that it very seriously interfered with deglutition. Liquids only could be swallowed with difficulty. I removed the tumor by making a vertical incision through the central wall of the pharynx, enucleating it, partly with the finger, partly with a slender curved instrument. The large cavity left after the removal of the growth was kept packed with gauze until it closed, and the patient made a rapid recovery. I had this tumor examined by an expert microscopist, who confirmed my diagnosis of fibro-lipoma.

The Relation of Pathological Conditions in the Ethmoid Region of the Nose and Asthma.

The Pathology.—This was the title of a paper by Dr. Henry L. Swain. (See page 613.)

Clinical Phases.—Dr. Clarence C. Rice presented this paper. (See page 694.)

Clinical Phases was the title of a paper by Dr. E. Fletcher Ingals. (See page 698.)

Treatment.—Dr. F. H. Bosworth read a paper on this subject. (See page 738.)

Dr. E. L. Shurly, of Detroit: On account of the complexity of the physiology of the vasomotor and ganglionic nervous system, I suppose it is almost impossible to settle exactly the ætiology of asthma and hay fever. I was very much interested in Dr. Swain's paper, which I think is excellent. He presented the subject in a very concise and lucid manner. It seems to me that we should go further back than ethmoiditis or œdematous rhinitis in considering the ætiology and pathology of these cases. Recent researches have shown some strange anatomic and physiologic conditions of the nervous system that were never before dreamed of. One of the most striking things in connection with this subject is the fact that the diverse fine fibrillæ or filaments going from cranial nerves or spinal centres are carried together in the cables, so to speak, and in these little insulated cables there are found sensory, motor, and specialized filaments. It has also been discovered that in different animals, and in different individuals of the same race of animals, there is a great variation in the nature of communicating branches from the several nerve trunks. These anatomical variations, which we can scarcely call abnormal, may account in great measure for many cases of asthma and hay fever, aside from the ordinary physical results of local disease. It is easy to imagine changes in the nasal apparatus, and, by the way, the nasal apparatus has another function than that of respiration—namely, the function of olfaction. In civilized man olfaction is almost rudimentary, and if you study this region in the lower animals you will find it is a highly perfected complex apparatus. The arrangement of the olfactory blood-vessels and nerves is more direct in animals, while in man they are in a rudimentary state. Supposing we have a psychic or physio-psychic habit established—a tendency to the transmission of motor impulses along sensory filaments; supposing there be abnormal breaks in the insulation of these special nerve bundles, would it not account for a hyperæsthesia or a paræsthesia? The fact that some human individuals present this thing in marked form is rather confirmatory of the theory. We find some individuals who are analgetic, and others who are hyperæsthetic. I suppose you have all seen so-called freaks whose mucous membranes and skin are entirely insensitive. I had the good fortune three years ago to have one of these freaks under my personal observation for three days. He allowed himself to be put through any sort of reasonable manipulation. I tested the different mucous membranes with all sorts of agents, and certainly the study of this man was quite edifying. You could thrust pins and needles through the skin and he would not feel them. Another strange thing was the effect upon the vasomotor system. We could open small vessels and the hæmorrhage would be trifling; and yet this man otherwise was a healthy, muscular young fellow. He allowed us to open two or three superficial veins, and I was astonished to see so little hæmorrhage from them. I had specimens of his blood examined, and no change from the normal could be found, excepting perhaps a slight increase of the so-called albumins. There were no changes found in the cellular elements of the blood; hence I concluded that all of the phenomena presented by this man were in a large measure neurotic. Now, from this point of view, must we not recognize two distinct classes of cases of asthma—those which may be due to local disease, as pointed out by Dr. Swain and Dr. Bosworth, such as œdematous disease of the mucous membrane of the nose or an ethmoiditis, and another distinct class located on the psychic borders in which there are abnormal physiologic and anatomic conditions of the nerve distribution? The respiratory organs are very sensitive in such people. I have to differ a little bit with my friend, Dr. Bosworth, about the bronchial tubes being such negative or passive organs. He is willing to ascribe to the nasal passages respiratory functions of considerable importance. We have also important vascular and glandular systems in connection with the bronchial mucous membrane, and the adenoid tissue of the bronchial mucous membrane, which has not been studied much until of late years. It is quite as important an apparatus as the nose, and one which we ought not to continue to pass by lightly. The bronchial mucous membrane has its special regions of lymph nodes and nerve nodes. It has special nerve distributions and communications, and special epithelium, which, according to recent observations of physiologists, give importance to the trachea and bronchial tubes. The cilia differ from cilia of other parts distinctly in that they have a special function for aiding respiration and taking care of the secretion. Aside from this, there is another special function which belongs to the bronchial tubes—that is, the production of a secretion peculiarly fitted for reducing the friction of the air passing through them. The physiologic chemistry of the secretion of the trachea and of the bronchial tubes also differs materially from that of other mucous membranes. Therefore, I am inclined to think that it is quite as important, if only secondary, toward the performance of the function of respiration as that of the nose.

With reference to the remarks of Dr. Ingals, what he has said brought to mind the case of a friend and patient of mine who would have an attack of asthma from cats. I said to his brother-in-law that I thought it was mental. But he did not think his asthma was mental. However, to use a vernacular term, his brother-in-law and myself "put up a job on him." He was accustomed to go to his brother-in-law's on Sundays for dinner, and I said to his brother-in-law that we would get a couple of cats, give them an anodyne so that they would not mew, put them in a closet near the dining-room without his knowledge, and then see if John would have an attack of asthma. Accordingly, the cats were given a full dose of urethane and placed in the closet. The man with his wife and little girl went to dinner as usual, and soon John began to sniff, then to sneeze, and finally wheeze. He remarked to his sister-in-law, "Have you any cats here?" She replied, "You know very well that we do not keep any cats in the house." Finally, John was obliged to leave the table on account of excessive coryza, wheezing, etc. He had no knowledge whatever of the cats being in the house, and the animals were as quiet as mice on account of the drug which had been given them. This incident very forcibly corroborates what Dr. Ingals said of some people being subject to attacks of asthma after riding behind horses.

One more point, and then I am done. It must be obvious to all, especially those who have been engaged in general practice, that the majority of the cases of asthma are not accompanied by any sensible structural derangement of the nasal passages. When I say sensible derangement of the nose I mean this: Undoubtedly, the nasal passages secrete more than may be considered normal in our northern climate. It is Nature's means of guarding the respiratory apparatus from cold air and the other changes due to our artificial mode of living. Too frequently we sit in a room heated at a temperature of 80° F., and then go out into a temperature of 32° or 40°. This sudden change produces changes in the vascular system, and I have come to regard a certain amount of asthma as a sort of physiological process established by Nature for the protection of the individual or the protection of the lower mucous membranes. We find a large number of these cases without any disease of the nasal passages that we can discover, and, of course, we must not go so far as to assume that because we do not discover any disease of the turbinated bodies, or of the outlying accessory cavities, that it must be there. I do not think that would be a fair argument or a rational way of thinking. The fact is being thrust upon us almost daily that there are persons of a neurotic type who are peculiarly sensitive; they are supersensitive. On the other hand, there are persons who are abnormally insensitive, and when we take into consideration recent biological and physiological discoveries relating to the nervous system, it seems clear that we have two distinct types of hay fever and asthma, the one depending entirely upon a peculiar condition of the nervous system, and the other depending upon a peculiar neurotic condition plus some local disturbance somewhere in the body.

Dr. J. N. **Mackenzie**, of Baltimore: This subject allows of the utmost latitude of discussion, and I shall only ask your attention to a few points that have come up during the reading of the papers. Dr. Swain's remarks agree in the main with the views which I have held upon this subject, and with which I have flooded the *Transactions* of this and other societies for the past sixteen years. I wish to call your special attention to a paper of mine, prepared and read before this association in Philadelphia in 1885, in which I covered in a very elaborate way the pathology of this class of diseases. I think one fact is established beyond the possibility of peradventure, and that is, that the primary cause of these affections does not reside in the nose, nor does it reside in any special peripheral organ, but lies in the individual himself. When we come to explain what the primary cause is, we enter the domain of the purest speculation, whatever may be the theories that have been advanced to account for it. The theory of so-called idiosyncrasy is possibly one of the most fashionable and the most convenient refuge of acknowledged ignorance. While we may acknowledge a vasomotor irritability, the fact remains beyond doubt that the primary cause of the trouble is as yet undiscovered. Dr. Swain's remarks support very forcibly the law which I laid down in the paper referred to, that the area in which the nerve explosion occurs will depend upon the seat of the local pathological process. In a neurasthenic or hysterical individual a nasal polypus may induce attacks of asthma, a polypus in the rectum may create a disturbance of the lower bowel, and so on.

We have to speak in a general way of three classes: One, in which the primary irritation undoubtedly starts in some peripheral organ, which in our case is the nose. Another class of case may originate in some distant organ, as disease of the uterus or of the uterine appendages. Another class of case may originate in some systemic condition, as, for example, gout, rheumatism, and allied affections. The primal cause is, however, a matter of the purest speculation. I have sometimes thought that a localized hysteria might account for some cases of so-called reflex nasal neurosis that we meet with in practice.

I do not believe in the theory of pressure contact. While in most cases there is present contact or pressure, as in cases of hypertrophy or œdematous fibromata, in another class of cases, by no means very rare, the opposite condition prevails. In my original experiments on the subject of nasal cough, I made the statement that these reflexes rarely, if ever, occurred in cases in which there was atrophy of the nasal mucous membrane. I have since been compelled to change my opinion in that regard. I have not only seen it in cases of pronounced atrophy, but other cases have been reported by other observers.

Dr. Ingals's cases all point to one moral—that is, they point directly to the nervous apparatus as the essential factor in the evolution of this trouble. The explanation of these cases is not to be found in the so-called respiratory functions of the nose or of the bronchial tubes: we must go deeper than that. All the hypotheses which have been advanced on this line of reasoning are inadequate; they all fail to come up to the requirements of a logical hypothesis; all violate some one or more criteria. Asthma is more frequently a symptom of disease of the respiratory tract than any other tract of the body; but it is nevertheless a symptom, and it, and the vasomotor phenomena which we observe, are simply external signs, are simply outward and visible signs of something unknown within, which is, up to the present time, entirely beyond our ken.

I can not fully agree with Dr. Bosworth that all polypoid degeneration is due to ethmoiditis. I do not base my opinion upon clinical observations alone, but upon pathological examinations made in this class of cases. I think we all agree with him as to the great importance of changes in the middle turbinated bone as establishing the presence of disease in the ethmoid cells. Ever since Grünwald called attention to changes in the ethmoid region as heralding the approach of disease deeper down, I think all of us who have had considerable experience have come to attest the value of his observations in that direction. I do not think intracellular pressure has anything to do with this class of cases. It is true, we have intracellular pressure in most cases of suppurative ethmoiditis, yet only in a small proportion have we asthma and other reflex manifestations.

In regard to the treatment of ethmoiditis, when we find the disease firmly seated in that region, I partly agree with Dr. Bosworth, but I disagree with him as to the use of the forceps. I have never had any difficulty in the use of it even in operating on the deeper parts of the nasal passages. Also with regard to the gouge. I have operated with great facility, after the obstruction had been removed in front of the diseased cavity, with the gouge. In the last case of sphenoidal disease which I operated on I removed as much of the ethmoid structures as possible, when from the small orifice which led into the sphenoidal cavity there came a little cascade of pus. All in front had been cleaned out thoroughly, with the exception of this little space from which pus was discharging. I enlarged the opening with a burr drill, introduced a curette, and curetted the sinus out, and the last time I saw the man the probe went into the bony structures twelve centimetres, yet I had no difficulty in curetting the greater part of the sphenoidal cavity. I think it is useless to temporize with curettement and other mild measures of the sort in the presence of extensive disease of the ethmoid cells; we have got to get the middle turbinated body out of the way. My method is to remove as much of the middle turbinated body as possible with the snare, depending, of course, upon the extent of the disease, and then clean out the remainder of the cavity with forceps and curettes. I agree with Dr. Bosworth in his estimate of the use of the drill; I am fond of it in intranasal surgery. We can polish off rough surfaces, we can make a cleaner job with the drill than with any other instrument at our command. I use the drill at the latter stage of the procedure, first removing the anterior end of the middle turbinated body, which is a simple thing to do with the snare, then removing the diseased portion as far as possible with cutting forceps and curettes, and polishing up and getting rid of the irregular surfaces left after forceps and curette work with the drill. So far, I have had no accidents, but the possibility of an accident should always be borne in mind.

Dr. G. HUDSON MAKUEN, of Philadelphia: The discussion of this subject is most interesting to me, and it would seem that asthma, whatever may be its remote cause, depends directly upon a faulty neuromuscular action. This faulty action may depend on any one of a dozen different things. As has been shown, the remote cause may be in the presence of animals, such as cats, horses, or dogs; and their removal has prevented the manifestations of the disease; or it may be in intranasal pressure, because in some cases the removal of this pressure has cured the disease. The remote cause may be adenoid vegetations in the vault of the pharynx, for I have seen cases of long standing absolutely cured by their removal and the removal of the bronchial catarrh that has been the result of the adenoids. Asthma, it seems to me, has some analogy to the disease known as chorea and even stammering, if we may call that a disease, and the physician who treats these cases successfully is the one who can determine and remove the exciting cause of the faulty nervimuscular action.

Dr. THOMAS HUBBARD, of Toledo: Autotoxæmia undoubtedly plays a part in the causation of ethmoid disease and asthma. Its importance is underestimated. We have autotoxæmia of two general types, that which originates from the gastro-intestinal tract and that which is due to faulty elimination. The effect of the toxic influences of the different types of leucomaines is exhibited by the vasomotor system and also diseases of mucous membranes through vicarious elimination. Ethmoid œdema may be directly caused by lithæmia, and persistent disease of this region may result. Systemic conditions must be constantly in mind in studying asthma even from the standpoint of laryngology.

Referring to the treatment, the fact that potassium iodide is of such usefulness in the treatment of asthma is one evidence that the practical way to attack this disease is by elimination, and that a study of auto-toxæmia is the most practical way to reach the solution of the treatment of asthma. In my experience, local and operative treatment of certain disease conditions of the ethmoid and contiguous structures fails lamentably unless it be supplemented by systemic treatment of the kind that checks injudicious indulgence in heavy foods and stimulants, lessens suboxidation due to sedentariness, and increases elimination.

Dr. SWAIN: The question for discussion was the relation of pathological conditions in the ethmoid region of the nose and asthma, and in discussing the pathology I tried to confine myself to those considerations. Dr. Bosworth, in his remarks, leads one to suppose that he thinks every case of polypoid degeneration of the middle turbinated region is associated with what he calls "ethmoiditis." From conversations I have had with other physicians, the majority of them are inclined to think that when the word ethmoiditis is employed, it means a purulent disease of the ethmoid cells, which Dr. Bosworth does not intend. If he believes that in all such cases there is disease of the bone and the cavities of the ethmoid, I wish to be a little at variance with him, because I know from actual microscopical examinations that such œdematous hypertrophies may exist for a long time on the outside of these thin trabeculæ of bone which separate them from the cavities of the ethmoid, and the mucous membrane lining these cells may be absolutely healthy, as much so as any I have removed from known healthy subjects or have ever seen; consequently, it must be stated in plain terms that polypi can exist without the involvement of the ethmoid bones.

Dr. Shurly has touched upon a subject in which I have taken a great deal of interest, and seems to throw some light upon the actual disease which takes place inside the bronchial tubes, and this phase of the subject is of very great importance in considering the pathology. In examining pathological changes of the middle turbinated region among the first things we find to disappear are the ciliated extremities of the cells which cover the surface. Immediately after the cilia have disappeared the mucus tends to adhere. The cilia are necessary in order to expedite the mucus, and give health to the surface. The same thing is true of the bronchial mucous membrane in a more marked degree. I have only a few data to substantiate these remarks, but in one or two asthmatic cases where I have examined the bronchial tubes they have lost their cilia over large areas. Such a condition must profoundly influence the ability to get rid of mucus from these areas, for the office of the cilia is essential in expediting the secretion from a lower to a higher level, and may account for the distressing difficulty these patients sometimes have in expectorating. Of course, I am not unmindful of the dilating and stiffening of the tubes, which always accompany prolonged existence of the spasms of the asthmatics.

Dr. BOSWORTH: What I am about to say I say with a great deal of hesitation. I am a firm believer in clinical observation. The honored men of our profession from the time of Sydenham down to Trousseau, Flint, Loomis, and others of our day have taught us to base our facts to a certain extent on the study of disease at the bedside, rather than to be governed and directed by the deadhouse student, with his microscope. In saying this I do not decry the use of the microscope, because it is a great aid in diagnosis. However, the microscopist sometimes tells us we are wrong when in carrying out certain clinical deductions, and certain treatment based on those clinical deductions, we know we are right in that our treatment is attended with success. With all due respect to the laboratory, I still hold up my voice for clinical observation. If ethmoid disease is not indicated by polypoid or œdematous degeneration, that peculiar condition of the middle turbinated body, and is not found after death by the microscope or by deadhouse observation, I question in my own mind if the student of the deadhouse has taken into consideration the post-mortem changes which occur in the mucous membrane. There are certain changes in what we call vasomotor paresis in the mucous membrane which disappear at death. I will not give up my clinical observation, which tells me that when I relieve intracellular pressure by operating on the ethmoid cell it cures my case. The microscope tells me I am wrong, but my patient gets well from operative interference.

Dr. CASSELBERRY: Will you be a little more explicit in describing to us the manner in which you use the burr—that is, using it as a probe first, then with downward pressure? It is the observance of little things that makes the method safe.

Dr. BOSWORTH: The advantage of the round burr is obvious in that you are able to grind off the walls and edges of the trabeculæ. You grind for a while, then stop. You simply feel your way with the burr—you feel the edges and slowly cut farther. You feel the little trabecular walls; you burr against them until they are off. You feel again, then burr six or eight seconds, and stop, and so on. Use the burr as a probe or investigator, go ahead, break down the trabecular walls, especially near the point where the burr enters, beneath the anterior part of the middle turbinated body. One great advantage in using the burr is that it serves as a guide to your operation. With care you can not do any harm if you go back into the nose further than to scrape a little mucous membrane off the sæptum. You are not likely to wound the cribriform plate. The thing to do is to work anteriorly and posteriorly in breaking down the cell walls.

(*To be continued.*)

Book Notices.

General Pathology, or the Science of the Causes, Nature, and Course of the Pathological Disturbances which Occur in the Living Subject. By Dr. ERNST ZIEGLER, Professor of Pathological Anatomy and of General Pathology at the University of Freiburg in Breisgau. Translated from the Ninth Revised German Edition by Dr. THEODORE DUNHAM, Dr. EDWARD M. FOOTE, Dr. PHILIP H. HISS, Jr., Dr. WALTER B. JAMES, Dr. WILLIAM G. LE BOUTILLIER, and Dr. MATTHIAS NICOLL, Jr., of New York; Dr. B. MEADE BOLTON, of Philadelphia; Dr. LEONARD WOOLSEY BACON, Jr., Dr. JOHN S. ELY, and Dr. R. A. McDONNELL, of New Haven, Connecticut. Editor, Dr. ALBERT H. BUCK, New York. New York: William Wood & Co., 1899. Pp. xxiii–598. [Price, $5.]

THE translation into English of the author's recent extensive revision of his famous work places in the hands of English and American students and readers the material results secured by pathological research during the past five years. Besides many less important changes and additions to be noted throughout the volume, the revision has affected principally the chapters on retrograde disturbances of nutrition and on tumors. The results of many recent studies of the so-called hyaline degeneration have been recognized by the author, who has classified these processes in somewhat modified form and added much interesting and important detail to their consideration. While not fully accepting the conclusions of Czerny and of Krawkow on the relation of glycogenic, hyaline, and amyloid deposits in tissues, the text relating to these subjects appears nevertheless to have been influenced by the results of these and other workers.

Apart from a minor change in the classification of tumors, the additions to this chapter consist principally in valuable discussions of the nature and origin of special growths. The limits of the class of endotheliomata have been extended, and many new illustrations of various neoplasms have been added.

Much recent work on pigmentation, inflammation, and the bacterial causes of disease has received attention in the chapters on these subjects.

The work as it now stands still maintains its original character as a finished text-book presenting the established facts of the science, while informing the reader of the present condition of our knowledge on controversial points. It may be true that such a volume overwhelms the student unless he is carefully guided by the constant references to current discussion, yet this character of the work has always rendered it invaluable to the more advanced student and to the pathologist. Nevertheless, although this is the chief ground on which the work has maintained its prestige over other treatises, its value in this respect is again largely nullified by the omission of the bibliographical references of the German edition. The bulk of the volume can not stand as a sufficient excuse for this policy, since the German edition, with references included and with the text in larger type, weighs less than the American edition. The advanced student and specialist is therefore still unable to turn the American edition of the work to the best advantage. In all other respects the translation is most satisfactory.

The Races of Europe: A Sociological Study (Lowell Institute Lectures). By WILLIAM Z. RIPLEY, Ph. D., Assistant Professor of Sociology, Massachusetts Institute of Technology, etc. Accompanied by a Supplementary Bibliography of the Anthropology and Ethnology of Europe, published by the Public Library of the City of Boston. New York: D. Appleton and Company, 1899. Pp. xxxii–624.

A Selected Bibliography of the Anthropology and Ethnology of Europe. By WILLIAM Z. RIPLEY, Ph. D., Assistant Professor of Sociology, Massachusetts Institute of Technology, etc. A Supplement to *The Races of Europe: A Sociological Study* (*Lowell Institute Lectures*). Published by the Trustees of the Boston Public Library. New York: D. Appleton and Company, 1899. Pp. x–160.

IT is hardly within the scope of this journal to give a comprehensive review of books of this character. But Dr. Ripley's work is in itself so interesting, and the subject is so closely allied with many medical questions, that we take pleasure in calling general medical attention to it. It is a study in European anthropology directed toward the environmental influences, rather than the purely hereditary ones, which have divided men into races. It includes the French, the Belgians, the Basques, the Teutons, and the Mediterranean and Alpine races; the races of the British Isles, the Russians, the Slavs, the Jews and Semites, the Greeks, the Turks, etc. These different peoples are individually studied as to their physical environment, their physical characteristics, and, to a certain extent, their social customs. In later chapters are considered their primary origins, the factor of environment *versus* race, the effects of climate, the influence of cities, etc.

The work is profusely illustrated with maps and photographs.

The Medical Complications, Accidents, and Sequelæ of Typhoid or Enteric Fever. By HOBART AMORY HARE, M. D., B. Sc., Professor of Therapeutics in the Jefferson Medical College of Philadelphia, etc. With a Special Chapter on the Mental Disturbances following Typhoid Fever. By F. X. DERCUM, M. D., Clinical Professor of Diseases of the Nervous System in the Jefferson Medical College. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. vi–17 to 286. [Price, $2.40.]

THE work before us is one of the most useful as well as one of the most readable works that we have been called upon to notice for some time. That its subject is important admits of no discussion, and, since typhoid fever is seldom in all respects typical, the book's advantages as compared with the necessarily limited chapters in the best of text-books and even "systems" of medicine are clear.

The work is comprised within seven chapters, of which the first is general in nature, discussing such matters as the prevalence, the mortality, and the age of commonest occurrence of the disease. The second chapter treats of the variations in its onset which, though scarcely to be classed as "complications," are certainly deserving of consideration in a volume like this. Aberrant Symptoms, States, or Complications of the Well-developed Stage of the Disease is the title of the third chapter and The Complications of the Period of Convalescence sufficiently describes the fourth. The fifth chapter is too brief. It deals with "conditions which ape typhoid fever." The subject is one deserving of more exhaustive treatment. The sixth chapter is also brief, and far too little is said of "second attacks." The volume ends with a chapter upon the mental complications of the disease.

We have thoroughly enjoyed this work; it is most important and most excellent. Its chief fault is that "in spots" it is too brief to satisfy, and we hope that a second edition will show an expansion in these places.

The Principles of Bacteriology: A Practical Manual for Students and Physicians. By A. C. ABBOTT, M. D., Professor of Hygiene and Director of the Laboratory of Hygiene, University of Pennsylvania. Fifth Edition, enlarged and thoroughly revised. With One Hundred and Nine Illustrations, of which Twenty-six are Colored. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. xi–17 to 590.

THE fifth edition of this deservedly popular laboratory manual has recently appeared, following very shortly after the preceding revision. The present volume contains important additions to several chapters, particularly those on technics, disinfection, the specific infections, and immunity, embodying the important practical advances made in these subjects during the past two years. Many new illustrations appear, some of which are colored, and several sketches show variations in the morphology of some species as occurring on different media, and are very instructive. Nevertheless, the illustrations of the volume are still unsatisfactory, especially for students. The sketches showing the minute morphology of important species are still quite small and lacking in detail, while the woodcuts of gross cultures, though improved in some instances, remain inferior to the illustrations now appearing in some other similar works. Apparently the author does not accept the allegations of Sanarelli for the *Bacillus icteroides*, and has not included this germ in the chapters on descriptive bacteriology. Considering the character of the work and the needs of students, for whom the volume is specially adapted, this and many other omissions are undoubtedly judicious. The constant feature of this work, namely, the concise statement of the elementary facts in the science, directed to undergraduate students of bacteriology, has been strictly maintained in the present edition, and will doubtless assure its continued use in the laboratory courses of most American medical schools.

The Schott Methods of the Treatment of Chronic Diseases of the Heart. With an Account of the Nauheim Baths and of the Therapeutic Exercises. By W. BEZLY THORNE, M. D., M. R. C. P. Third Edition. Illustrated. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. 11 to 132. [Price, $1.75.]

IN the third edition of this able work there has been some rearrangement of old material, and some new matter has been added. The most noticeable variation is in relation to the conditions that should modify the ordinary procedure of the Schott method. The work is an excellent setting forth of the Nauheim treatment.

Manual of Bacteriology. By ROBERT MUIR, M. A., M. D., F. R. C. P. Ed., Professor of Pathology, University of Glasgow, and JAMES RITCHIE, M. A., M. D., B. Sc., Lecturer in Pathology, University of Oxford. Second Edition. With One Hundred and Twenty-six Illustrations. Edinburgh and London: Young J. Pentland. New York: The Macmillan Company, 1899. Pp. xviii–564. [Price, $3.25.]

THE high opinion of this work expressed in these columns on the appearance of the first edition has been fully justified by its very favorable reception both here and abroad and by the prompt call for a second edition. The authors have improved the opportunity by rewriting some portions and by making numerous and important additions to the text throughout. We note such additions especially in the discussion of tuberculosis, tetanus, bubonic plague, yellow fever, malarial disease, and dysentery. The authors express considerable confidence in the statements of Sanarelli concerning the *Bacillus icteroides.* An important addition is the recommendation that the discharge of suspected wounds be examined morphologically and by culture in glucose media for the *Bacillus tetani.* The treatment of the subject of malaria is still unsatisfactory. The authors appear to be uncertain what classification to adopt, and unaware that the existence of a quotidian parasite has not been proved or accepted even by Marchiafava and Bignami. The photographs of the malarial parasite and of the amœba of dysentery are very clearly reproduced.

The short historical notes, a valuable feature of the work, have, in important subjects, been brought up to date. Many new photographic illustrations appear in this edition, all of which are good. Possibly the photographs of cultures have been excelled by those of some other recent works of the sort, but the general standard has, we believe, not been surpassed.

The volume probably contains more useful bacteriological information than any other volume of comparable size that has yet appeared in any language. It now meets more successfully than ever the requirements of a practical laboratory manual and short work of reference for students, physicians, and laboratory workers.

BOOKS, ETC., RECEIVED.

A Practical Treatise on Materia Medica and Therapeutics. By Roberts Bartholow, M. A., M. D., LL. D., Professor Emeritus of Materia Medica, General Therapeutics, and Hygiene in the Jefferson Medical College of Philadelphia, etc. Tenth Edition, revised and enlarged. New York: D. Appleton and Company, 1899. Pp. xxii–866.

A Manual of Organic Materia Medica and Pharmacognosy. An Introduction to the Study of the Vegetable Kingdom and the Vegetable and Animal Drugs. Comprising the Botanical and Physical Characteristics, Source, Constituents, Pharmacopœial Preparations, Insects Injurious to Drugs, and Pharmacal Botany. By Lucius E. Sayre, B. S., Ph. M., Dean of the School of Pharmacy, etc. Second Edition, revised. With Histology and Microtechnique by William C. Stevens, Professor of Botany in the University of Kansas. With Three Hundred and Seventy-four Illustrations, the Majority of which are from Original Drawings. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xvii–17 to 684. [Price, $4.50.]

Physiology. A Manual for Students and Practitioners. By Howard D. Collins, M. D., Assistant to the Attending Surgeon of the Roosevelt Hospital, etc., and William H. Rockwell, Jr., M. D., Assistant Demonstrator of Anatomy, College of Physicians and Surgeons (Columbia University), etc. Series edited by Bern B. Gallaudet, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons (Columbia University), etc. Illustrated with One Hundred and Fifty-three Engravings. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. 323. [Price, $1.50.]

Evolution by Atrophy in Biology and Sociology. By Jean Demoor, Agrégé of the Free University of Brussels; Jean Massart, Chargé de cours of the Free University of Brussels; and Émile Vandervelde, Professor at the Institute of Hautes études of Brussels. Translated by Mrs. Chalmers Mitchell. New York: D. Appleton and Company, 1899. Pp. xiii–7 to 322. [*The International Scientific Series.*]

A Blank Book for Autopsy Protocols. By Aldred Scott Warthin, M. D., Ph. D., Assistant Professor in Pathology in the University of Michigan. Ann Arbor, Michigan: George Wahr, 1899.

Loveliness. A Story by Elizabeth Stuart Phelps. Boston and New York: Houghton, Mifflin, & Co., 1899. Pp. 43.

The Medical Treatment of Movable Kidney. By Alfred Stengel, M. D., of Philadelphia. [Reprinted from the *University Medical Magazine.*]

Neurasthenia. By John Punton, M. D., of Kansas City, Missouri. [Reprinted from the *Medical-Index Lancet.*]

On the Clinical Estimation of the Quantity of Hæmoglobin in the Human Blood. By Thomas J. Jarrow, Jr., M. D., and Arthur P. Hitchens, M. D., of Philadelphia. [Reprinted from the *University Medical Magazine.*]

Gastroptosis: A Report of a Case in which a New Operation was undertaken, and the Patient greatly Improved. By Alfred Stengel, M. D., and Henry D. Beyea, M. D., of Philadelphia. [Reprinted from the *American Journal of the Medical Sciences.*]

Bulletin of the Laboratory of Mount Hope Retreat. 1899.

Proceedings of the Academy of Natural Sciences of Philadelphia. Part II. April–September, 1899.

Miscellany.

The Loomis Sanitarium Fire.—The physician in charge asks us to state that, although the administration building was totally destroyed by fire on October 14th, the work of the institution has gone on uninterruptedly, the casino building having been temporarily adapted to the purposes of administration. It is expected that a new administration building will be completed within a few months. None of the patients' cottages were at all injured by the fire.

The St. Louis Academy of Medical and Surgical Sciences held its annual meeting on November 7th, when the following officers were elected for the ensuing year: President, Dr. James Moores Ball; senior vice-president, Dr. William Porter; junior vice-president, Dr. H. G. Nicks; secretary, Dr. R. B. H. Gradwohl; treasurer, Dr. Emory Lanphear; orator, Dr. J. C. Murphy; curator and librarian, Dr. Robert Edward Wilson. Dr. Lanphear read a paper on Some Practical Points in the Treatment of Diseases of Women, and Dr. B. S. Simpson presented his thesis—Report of a Case of Exophthalmic Goître treated by Sympathectomy.

According to the secretary's report, the past year has been the most prosperous in the history of the academy. Twenty-three meetings were held, twelve pathologic specimens were presented, and forty-three theses and papers were read and discussed. The annual banquet was much enjoyed.

M. Bourneville's Work with Feeble-minded Children.—Dr. L. Pierce Clark, of the Craig Colony, Sonyea, New York, has furnished us with the following remarks:

We are apt to give but little attention to researches on the feeble-minded and the mentally deficient, unless we are more or less immediately concerned with their care and treatment in special institutions. But the more recent work among this class is of particular interest because some of the best students have, by their studies of medico-pedagogics for the feeble-minded, already evolved practical results in improving educational methods for the normal child.

Volume xix of M. Bourneville's *Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie,* just published, embracing the work of the year 1898, presents many points worthy of notice. The idea has been steadily growing of late years in educational circles that the backward child needs now only a little more care to place it ultimately on an equality with its fellows in obtaining an education. Bourneville has long been one of the chief exponents of this view. Again, every one must note with interest that each successive number of the yearly records of researches in the

Bicêtre proclaims a relatively decreasing number of the absolutely unteachable idiots.

All the methods employed in sense instruction are very ingenious. Lessons are given in all the physiological processes—eating, breathing, walking, and the everyday care of the body. Many simple and effective methods are used for teaching the physical "characteristics and uses of things." Large and thoroughly equipped museums of objects assist the synthesis and analysis classes to provoke spontaneous, voluntary attention to become a persistent, concentrated one. Bourneville's reflections from year to year along this line are practical illustrations of Ribot's theoretical views upon the psychology of attention.

Many observations were made during the last year upon a typhoid-fever epidemic among the inmates of the Bicêtre, in which seven epileptics were included; in six of the seven epileptics no convulsions occurred during the fever, which is quite in accord with current investigations. Bourneville believes that the suspension of seizures in epileptics during febrile affections may be due to a vicarious manner that the nervous system has of spending its energy. However this may be, he states that in all his observations upon the association of typhoid fever and epilepsy the convulsions have always been retarded, even after convalescence from the fever, and in some cases he has seen an entire suspension of the epilepsy.

The yearbook presents a *résumé* of all previous statistical studies at the Bicêtre upon alcoholic parentage in the production of idiocy and epilepsy; such statistics in more than seventeen hundred cases, although confined to one nation, are overwhelming in their tendency to show that alcoholism plays an exceedingly prominent rôle in the causation of mental deficiency in children, and especially in the production of idiocy.

The clinical and pathological work done during 1898 in regard to idiocy, epilepsy, and hysteria in children, recorded in the nineteenth volume, equals that of previous years, if it does not surpass it, in careful, scientific character. Bourneville's great work in the Bicêtre is worthy of all praise.

Antikamnia Laxative Tablets.—The object of adding antikamnia to laxatives is not at first sight clearly apparent, but on inquiry we find that many physicians have for some time past frequently written magisterial prescriptions for laxative combinations with the addition of antikamnia—so frequently, indeed, as to have led the Antikamnia Chemical Company to prepare an antikamnia laxative tablet. It seems that antikamnia is considered an excellent carminative, and that accounts for the frequency with which physicians have prescribed it with laxatives.

A Chance Lost for a Christian-Science Cure.—*Medicine* for November, in its editorial comment on Dr. C. V. Comfort's snake cure for exophthalmic goître, says that the course of exophthalmic goître is subject to wide variations. Not long since the writer was consulted in a case of this kind, in which the patient had been under the care of a number of skilled physicians without benefit, and had received most of the approved methods of treatment. He was asked if Christian-Science treatment would do harm, to which he replied that it would probably do no harm, but that it was almost certain to do no good, and the patient left with the apparent intention of going to a Christian Scientist. Some months afterward this patient was seen and then seemed greatly improved in health and spirits. On questioning the patient the writer expected to hear a story of the wonderful efficacy of Christian Science in the treatment of this disorder, but was surprised to learn that the patient did not consult a "healer," for on the second day after the consultation she began to improve and continued to get better, so that she did not deem it necessary to consult any one. This was an example of the cases that improve without treatment. Exophthalmic goître is a disease that is profoundly influenced by suggestion, and, adds the writer, I certainly know of no better way of producing a profound mental impression than to have a live snake wrapped around the neck.

The Thirteenth International Medical Congress.—The American national committee is constituted as follows: Dr. William Osler (chairman); Dr. George M. Sternberg, surgeon-general of the army; Dr. W. K. Van Reypen, surgeon-general of the navy; Dr. Walter Wyman, surgeon-general of the Marine-Hospital Service; Dr. W. W. Keen, president of the American Medical Association; Dr. H. P. Bowditch, president of the Congress of American Physicians and Surgeons; Dr. O. F. Wadsworth, president of the American Ophthalmological Association; Dr. H. G. Miller, president of the American Otological Society; Dr. E. D. Fisher, president of the American Neurological Association; Dr. G. J. Engelmann, president of the American Gynæcological Society; Dr. H. W. Stelwagon, president of the American Dermatological Association; Dr. Samuel Johnston, president of the American Laryngological Association; Dr. Robert F. Weir, president of the American Surgical Association; Dr. A. Jacobi, president of the American Climatological Association; Dr. E. G. Janeway, president of the Association of American Physicians; Dr. James Bell, president of the American Association of Genito-urinary Surgeons; Dr. H. M. Sherman, president of the American Orthopædic Association; Dr. R. H. Chittenden, president of the American Physiological Society; Dr. Burt G. Wilder, president of the Association of American Anatomists; Dr. Henry Koplik, president of the American Pædiatric Society; Dr. B. Holly Smith, president of the American Dental Association; and Dr. Henry Barton Jacobs (secretary, No. 3 West Franklin Street, Baltimore, to whom all communications should be addressed).

The meeting is to be held in Paris on August 2, 3, 4, 5, 6, 7, 8, and 9, 1900, under the presidency of M. Lannelongue. Membership will be granted to all doctors of medicine who fill out the application blank and return it, together with five dollars, to the secretary of their national committee. Physicians who wish to read papers at the congress will forward them to the secretary of the section in which they belong. The secretaries of sections are as follows: Comparative Anatomy, M. Auguste Pettit, No. 60 rue St.-André-des-Arts, Paris; Descriptive Anatomy, M. Rieffel, No. 7 rue de l'École de médecine, Paris; Histology and Embryology, M. Retterer and M. Loisel, No. 15 rue de l'École de médecine, Paris; Physiology and Biological Physics and Chemistry, M. Gley, No. 14 rue Monsieur-le-Prince, and M. Weiss, No. 20 avenue Jules-Janin, Paris; General and Experimental Pathology, M. Charrin, No. 11 avenue de l'Opéra, and M. Roger, No. 4 rue Petrault, Paris; Bacteriology and Parasitology, M. R. Blanchard, No. 226 boulevard St. Germain, Paris; Pathological Anatomy, M. Letulle, No. 7 rue de Magdebourg, Paris;

Internal Pathology (general medicine), M. Rendu, No. 28 rue de l'Université, and M. Widal, No. 155 boulevard Haussmann, Paris; Medicine of Infancy, M. Marfan, No. 30 rue de la Boëtie, Paris; Therapeutics, Pharmacology, and Materia Medica, M. Gilbert, No. 27 rue de Rome, Paris; Neurology, M. P. Marie, No. 3 rue Cambacérès, Paris; Psychiatry, M. A. Ritti, Asile de Charenton, Seine, France; Dermatology and Syphilography, M. G. Thibierge, No. 7 rue de Surênes, Paris; General Surgery, M. Walther, No. 21 boulevard Haussmann, Paris; Surgery of Infancy, M. A. Broca, No. 5 rue de l'Université, and M. Villemin, No. 58 rue Notre-Dame des Champs, Paris; Urinary Surgery, M. Desnos, No. 31 rue de Rome, Paris; Ophthalmology, M. Parent, No. 26 avenue de l'Opéra, Paris; Laryngology and Rhinology, M. Lermoyez, No. 20 bis rue de la Boëtie, Paris; Otology, M. Castex, No. 30 avenue de Messine, Paris; Stomatology, M. Ferrier, No. 39 rue Boissy d'Anglas, Paris; Obstetrics, M. A. Bar, No. 122 rue de la Boëtie, and M. Champetier, No. 28 rue de l'Université, Paris; Gynæcology, M. Hartmann, No. 4 place Malesherbes, Paris; Legal Medicine, M. Motet, No. 161 rue de Charonne, Paris; and Military Surgery and Medicine, M. Catteau, Ministère de la Guerre, Paris.

Clothing and Fashion.—We quote the following editorial from *Medicine* for November:

"One of the misfortunes of civilized man is that his raiment is prescribed by a changing and irresponsible fashion, that is dictated to a considerable extent by caprice, and perhaps still more by business considerations and financial necessities of tailors. Much criticism has been leveled at women's dress, tight lacing and high-heeled shoes having come in for not a little censure, and much has been written upon the twisted spines and 'corset livers' which result from these follies. A further criticism of women's dress is that it is not sufficiently warm in winter, but the fact that this is offset by its being an admirably cool costume in the heat of summer is not generally stated. For the most part, the clothing of men is supposed to be quite sensible; it is, in the main, well adapted to cold weather, but during the hot season of the year it is altogether too heavy. In the fashioning of men's garments, the styles unfortunately come from a climate much cooler than our own. A weight of clothing which may be worn in comfort, and which, indeed, may be almost a necessity in the cool, moist atmosphere of England, is worn with the utmost discomfort in our own almost tropical summer temperature. Not only is the outer clothing too heavy, but the underwear is kept closely in contact with the body and evaporation prevented, and in addition starched collars and shirt fronts are worn, which likewise prevent evaporation and cause an immense amount of personal discomfort, not to say congestion of internal organs, and possibly diseased states. All this arises from the fact that we do not seem to have independence enough to dress according to the needs of our own climate, which requires an abundant supply of warm clothing in the winter, and a summer dress of thin, light, porous material.

"An example was noted on the golf links during the past summer. In many instances the golfing suits were composed of thick woolens, including a heavy vest, and in a number of cases a flannel shirt. These were reenforced by a heavy pair of worsted golf stockings, nearly a quarter of an inch in thickness. Of course, this was thoroughly Scotch, and if they had appeared on the links of St. Andrews they would have been strictly *au fait*. Unfortunately, as we have imported the game and costume in which it is played, we have not been able to import the temperature, which in the summer is very much below our average. In the few hot days which they have in Scotland golf is not generally played, and yet these days rarely exceed 80° or 85° F. The bulk of the golf-playing on the other side of the water is done at a temperature ranging from 40° to 60° F., when leggings and heavy overgarments are a necessity. The same clothing worn upon our links, with the temperature running to 90° F. and above, becomes a simple absurdity.

"Undoubtedly much of the discomfort of our summers is due to unsuitable clothing. Any one who will try the matter will, we are sure, be convinced of this fact. A considerable degree of activity may be displayed if the clothing is suitable and admits of ready transpiration. There is a fallacy that underwear absorbs the perspiration. So it does, but in so doing it remains moist, and if covered by an outer garment acts as a poultice to the skin. The best dress for men during the extremely hot days of summer is a pair of light flannel trousers and a light linen or woolen shirt, with no underwear."

The New York Academy of Medicine.—At the last regular meeting, on Thursday evening, the 16th inst., Dr. Lewis S. Pilcher presented a paper on The Surgery of the Kidney.

At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 20th inst., the following papers will be presented: Otitic Brain Abscess, by Dr. Emil Gruening; Osteoma of the Auditory Canal, by Dr. Thomas R. Pooley; A Case of Suppuration of the Lateral Sinus and Thrombosis of the Interior Jugular with General Pyæmia, by Dr. Max Toeplitz; A Report of a Case of Removal of the Cochlea and a Part of the Semicircular and Facial Canals through the External Auditory Canal, by Dr. Robert C. Myles; The Indications for Incudectomy during Operation for Acute Purulent Otitis Media and Mastoiditis, as a Prophylactic Measure against Subsequent Chronic Suppuration, by Dr. Frederick Whiting; and Ligation and Excision of the Internal Jugular Vein for Septic Thrombosis, by Dr. Edward B. Dench.

At the next meeting of the Section in Medicine, on Tuesday evening, the 21st inst., Dr. Henry W. Berg will read a paper entitled Diabète Bronzé and the Pathogenesis of Diabetes Mellitus, which will be discussed by Dr. W. H. Thomson, Dr. A. Jacobi, Dr. M. P. Meyer, Dr. M. Manges, Dr. Max Einhorn, Dr. J. Rudisch, Dr. N. E. Brill, and Dr. Alexander Lambert.

At the next meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 22d inst., Dr. T. B. Berens will present a case of healed tuberculosis of the larynx, and Dr. Beaman Douglass will present a paper on A Study of the Application of the Galvanocautery in the Nose. New cases will be presented, and new instruments and specimens will be exhibited.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 23d inst., the following papers will be read: Nephrectomy for Ascending Tuberculosis, by Dr. Hiram N. Vineberg; Pregnancy complicated by Sarcoma of the Kidney, by Dr. Edward A. Byers; Atresia Vaginæ complicating Labor, by Dr. George Grey Ward, Jr.; and The Treatment of Cancer by its own Toxines, by Dr. P. J. McCourt.

Original Communications.

FURTHER EXPERIMENTAL RESEARCHES ON THE EFFECTS OF DIFFERENT ANÆSTHETICS ON THE KIDNEYS.

By ROBERT COLEMAN KEMP, M. D.

(Continued from page 738.)

A. C. E. MIXTURE.—The anæsthetic known as the A. C. E. mixture is composed of alcohol, one part (by volume); chloroform, two parts; and sulphuric ether, three parts. This was tried by us on four dogs.

Carotid Tracings.—If it is administered by the open method, with ninety-five per cent. of air, the carotid tracings are wholly similar to those of chloroform; if by the semiclosed or closed, there is a very pronounced chloroform effect. This is clearly shown in the carotid tracings (Fig. 5) of a dog to which it was administered by the semiclosed method and but a moderate amount used for only a few seconds.

Kidney Tracings.—If this anæsthetic is administered by the open method, as above noted, with ninety-five per cent. of air, the kidney tracings are the same as those of chloroform: but when the semiclosed methods are used, the tracings immediately become like those characteristic of ether. As there is less ether, however, in the mixture, the kidney circulation, when the anæsthetic is suspended, recovers sooner than when pure ether is used.

The *renal secretion* is more copious than with pure ether, but less than with chloroform. When the A. C. E. is pushed the secretion is diminished, but never to actual suppression. Albumin likewise appears early, though not so early as with pure ether, but in larger quantity than with chloroform. The inference, therefore, seems legitimate that with this mixture the effects will be those of the *inhalation of chloroform* alone when the air is freely admitted, but that when the proportion of air inhaled is diminished by the semiclosed method, we then get the specific *ether effect* upon the kidneys, along with an increased chloroform effect upon the general circulation.

SCHLEICH'S MIXTURE.—Three solutions or mixtures are used by Schleich. No. 1: Chloroform, an ounce and a half; petroleum ether, half an ounce; sulphuric ether, six ounces. No. 2: Chloroform, an ounce and a half; petroleum ether, half an ounce; sulphuric ether, five ounces. No. 3: Chloroform, an ounce; petroleum ether, half an ounce; and sulphuric ether, two ounces and two thirds. All these solutions were employed with four dogs, with like results, differing only in degree.

The *carotid tracings* in the drawing (Fig. 6) show the effects of No. 3 solution, and are seen to correspond to those of the A. C. E. mixture and to be like those of chloroform.

The *kidney* tracings follow those of ether, or rather appear to occupy a position between those of pure ether and those of the A. C. E. mixture, being more pronouncedly like the ether effects than in the A. C. E. tracings. The recovery of the kidney circulation on the suspension of the anæsthetic took place rather sooner than from pure ether, but longer than after the A. C. E.

The *renal secretion* was diminished much more than with the A. C. E., though *not quite to complete suppression.* Albumin appears quite early, and with deep narcosis increases largely in amount, more than with A. C. E., but less than with pure ether.

In order to guard against error of interpretation of the oncometric tracings, as they might be in part affected by the movements of the diaphragm and of the abdominal viscera during respiration, altering the position of the kidney or the proper alignment of its pedicle, it was proposed to eliminate all such muscular effects by the use of curare. For this purpose several drops of a one-per-cent. solution of curare, or one or two drops of a three-per-cent. solution, were injected into the jugular vein. Artificial respiration was then resorted to every few minutes to keep up the action of the heart, but the respiratory movements were suspended, while the effects of the several anæsthetics were noted. In these observations no difference was noted from the respective effects of the different anæsthetics upon noncurarized dogs, except such as were due to the general depression of the circulation by the interference with the respiration. The ether, chloroform, A. C. E., and Schleich anæsthetics showed no variation from their previous results respectively, whether in the carotid or in the kidney tracings. Two dogs were used with such anæsthetics.

NITROUS OXIDE.—This anæsthetic was administered during our experiments upon three dogs by Mr. Hasbrouck, who has a great experience in the use of nitrous oxide. Owing to the special effect upon the respiration by this agent, the general *blood pressure* is shown (in the drawing, Fig. 7) in the carotid tracings to be *rapidly and markedly raised.*

These results in appearance are closely parallel to those of asphyxia, and are accompanied by a good deal of struggling, and the excursions of the kymographic tracings are seen to be more pronounced than with any other anæsthetic. There is no depression of the heart until the respiration becomes much affected by pushing the narcosis, as was noted twice, when artificial respiration had to be resorted to. When this anæsthetic was suspended the heightened blood pressure fell to normal very rapidly, and quick recovery was noted when artificial respiration was employed.

Kidney Tracings.—These are rather peculiar in

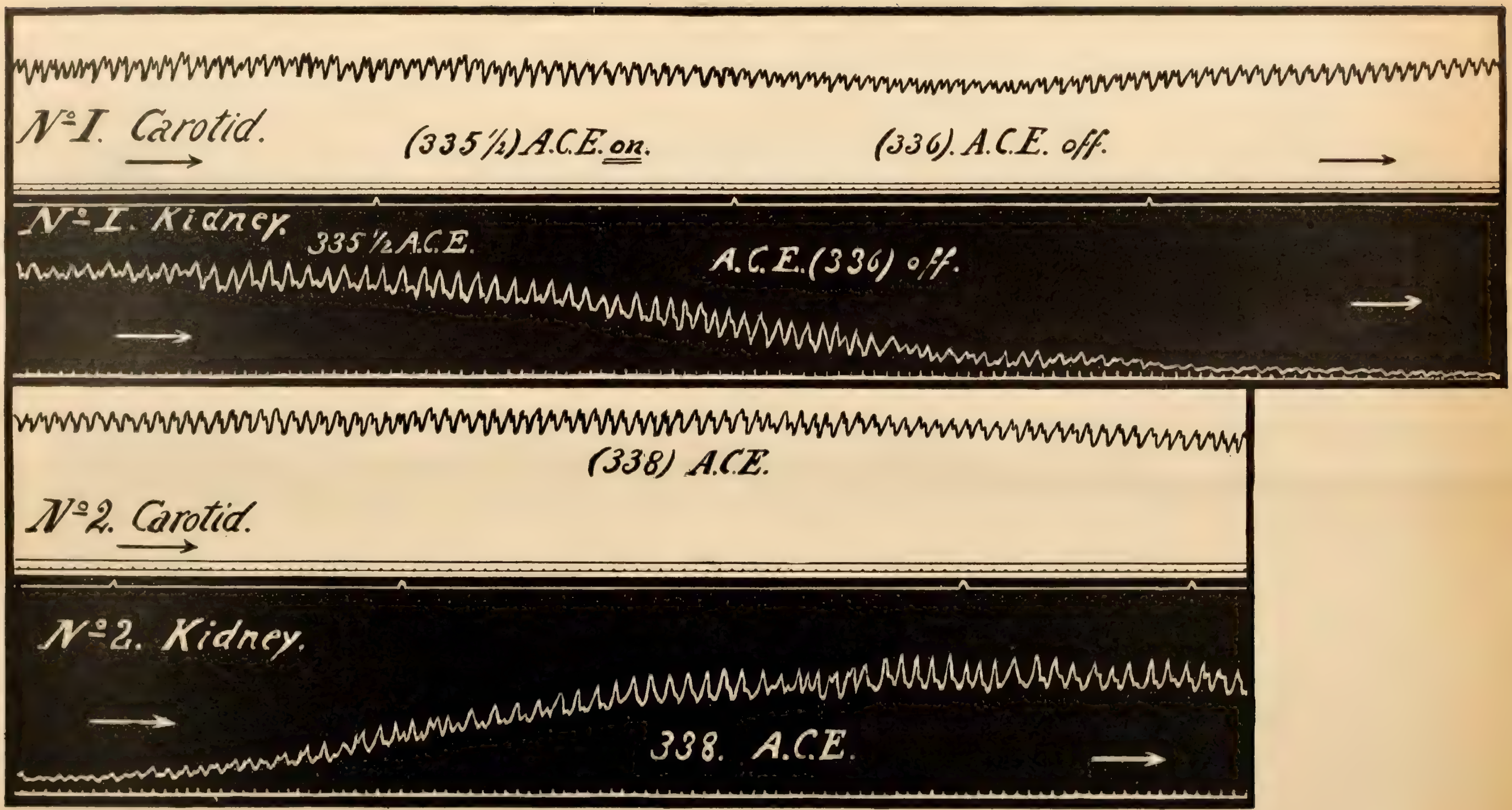

FIG. 5.—Oncometric and carotid tracings following the administration of A. C. E. mixture.

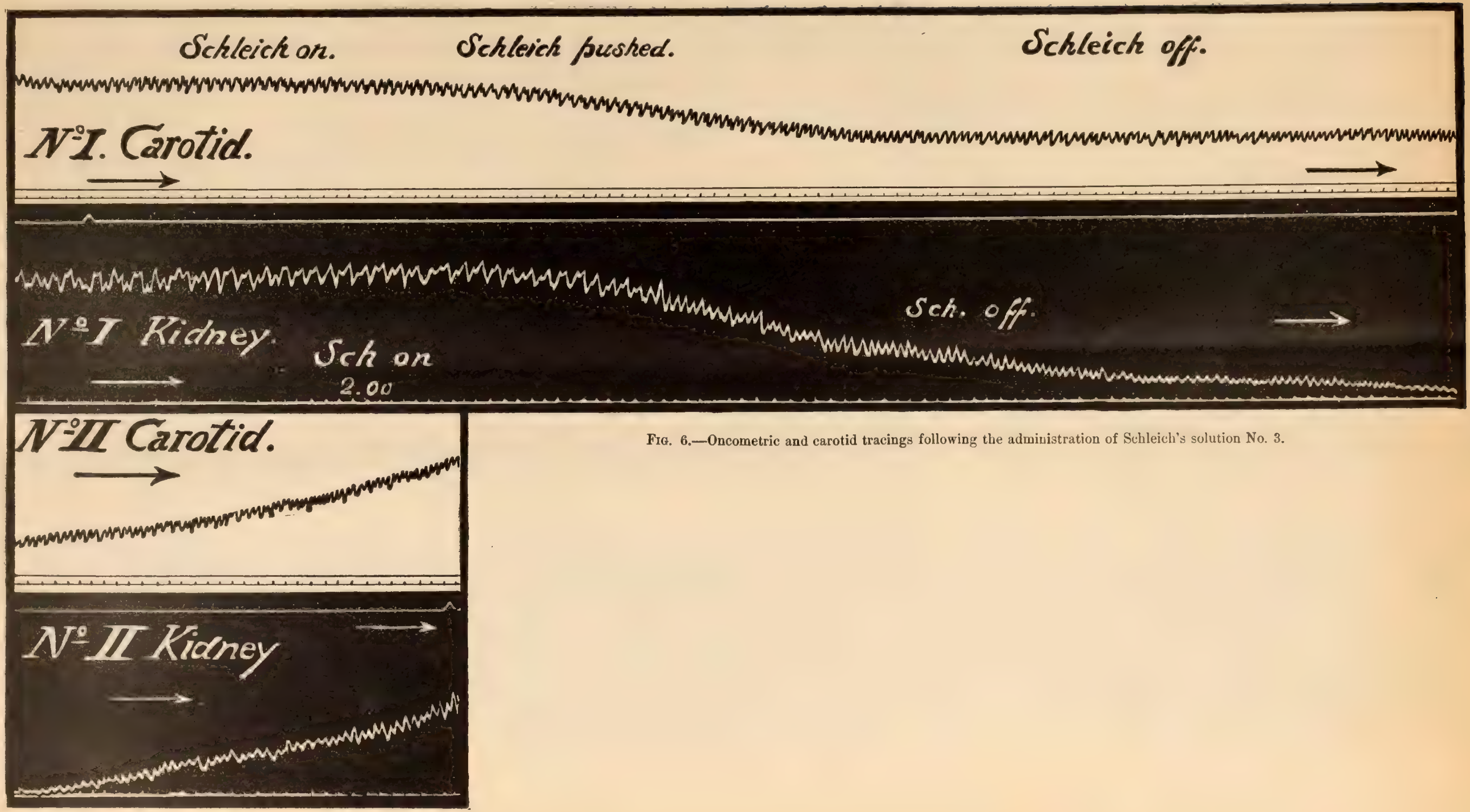

FIG. 6.—Oncometric and carotid tracings following the administration of Schleich's solution No. 3.

some of their features, but are explicable as dependent upon the kidney sharing in the effects of interference with the respiration and consequent general arterial contraction, as shown in the carotid tracings. Under moderate anæsthesia the oncometric tracings at first fall, keeping close to and parallel with the base line. At this stage the oncometric respiratory curves are very pronounced, while the vertical tracings—*i. e.*, of the kidney pulse—are very short. If the anæsthetic is then pushed, the kidney waves disappear and the general tracing falls below the base line. These changes are very evanescent, and as soon as the anæsthetic is suspended the line rises again and the respiratory curves reappear, with a prompt return afterward to normal conditions.

The evidence, therefore, points to a contraction of the renal vessels corresponding in every particular with the general circulatory change, *and not indicating any specific effect* upon the *kidneys*.

Renal Secretion.—This is rapidly diminished, as might be expected from the fall in the kidney tracings. In complete narcosis some albumin appears, but it is moderate in amount, and soon disappears after the administration is suspended. A hypodermic injection of nitroglycerin is suggested in *old people* to diminish the tendency to high tension, or lessen the danger therefrom when employing nitrous oxide.

ANÆSTHOL.—This anæsthetic mixture was recently devised by Dr. Willy Meyer as a substitute for Schleich's anæsthetic mixture. It is a combination of what he denominates M. S. and ethyl chloride.

M. S. is a solution of chloroform and ether in molecular proportions—*i. e.*, 43.25 per cent. chloroform and 56.75 per cent. ether by volume. This, he states, has a boiling point of 52° C. or 125.6° F.

Ethyl chloride has a boiling point of 15° C. The proper proportion he states to be eighty-three per cent. of M. S. and seventeen per cent. of ethyl chloride by volume, and the boiling point of this solution is given as 40° C.

Its specific gravity he found to be 1.045; that of chloroform is 1.490, and, as on evaporating for five hours a thousand cubic centimetres of this solution at 40° C. he found the residue of twenty-two cubic centimetres to have a specific gravity of 1.262, he states that this fact shows plainly that up to the last moment a solution of components discharges and not a final "residue of chloroform." The report of Mr. J. C. Minor on M. S. and anæsthol (who also, as an expert chemist, investigated Schleich's anæsthetic mixture) will, we believe, effectually dispose of these claims. The reports are tabulated for your convenience.* We thus have in anæsthol a combination of ether, chloroform, and ethyl chloride. Ethyl chloride is a true anæsthetic.

Dr. Ludwig, in 1897, reported nine cases of narcosis with ethyl chloride; duration, five to ten minutes.

The following symptoms were noted with anæsthol:

Respiratory Symptoms.—While we were administering the anæsthol by the semiclosed or closed method, in order to anæsthetize the animal, so as to perform the necessary operations for our experiments, before tracheotomy, there was marked stertorous breathing, in spite of all precautions.

Difficulty with the respiration was noted throughout the experiment. On one occasion artificial respiration

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* SOLUTIONS KNOWN AS M. S. AND ANÆSTHOL. *Chemical Tests by Mr. J. C. Minor, Jr.*—Mr. Minor furnished us with the following reports:

M. S.—Dr. Willy Meyer calls by the term M. S. a solution of chloroform and ether in molecular proportions—*i. e.*, 43.25 per cent. chloroform + 56.75 per cent. sulphuric ether by volume. This, he states, has a boiling point of 52° C., or 125.6° F.

I took 200 cubic centimetres of this molecular solution, prepared by Squibb, and proceeded to ascertain whether, as Dr. Meyer claims, such a solution would have a constant, or approximately constant, boiling point, thereby indicating that at any given time the proportions of chloroform and ether in the vapors were approximately the same as in that part of the solution not yet vaporized, or whether its boiling point would be an inconstant and changing factor, indicating a variation between the proportions of the components of the vapors and of the remaining solution, and also between successive portions of the vapors. In the distilling flask the following was noted, 200 cubic centimetres being taken:

60 c. c. came off, the boiling point ranging from 49° C. to 53° C.
40 " " " " " " 53° C. to 56° C.
55 " " " " " " 56° C. to 59° C.
45 " " " " " " 59° C. to 62° C.

These results certainly afford no justification for a statement that 52° C. is the boiling point of the solution M. S., and they plainly show that each of the four successive portions of the distillate contained chloroform and ether in widely differing proportions.

Anæsthol.—Dr. Meyer was not satisfied, however, with M. S., deeming its boiling point too high, and he therefore decided to add to it ethyl chloride, having a boiling point of 15° C. The proper proportion he states to be 83 per cent. of M. S. and 17 per cent. of ethyl chloride by volume, the boiling point of the resulting solution being given as 40° C.

The specific gravity he found to be 1.045 (that of chloroform is 1.490), and, as on evaporating for five hours 1,000 cubic centimetres of this solution at 40° C. he found the residue of 22 cubic centimetres to have a specific gravity of 1.262, he states that this fact shows plainly that "up to the last moment a solution of components discharges and not a final residue of chloroform."

The difference between the specific gravities of the residue and of the solution before evaporation may be said to also show plainly that the proportion between the components in solution (and therefore those in vaporous form) was widely different at different stages of the vaporization.

This is borne out by the following experiment: Two hundred cubic centimetres of the solution, containing ethyl chloride in the proportion above given (*i. e.*, the anæsthol, or M. S. + ethyl chloride), were distilled during a period of four hours with the following results:

17 cubic centimetres boiled between 28° C. and 40° C.
63 " " " " 40° C. and 50° C.
50 " " " " 50° C. and 58° C.
60 " " " " 58° C. and 64° C.

It seems difficult to state, therefore, what the boiling point of this solution is, and grounds for saying that its boiling point is 40° C. certainly do not appear.

The boiling point rises from near that of the lowest boiling constituent to that of the highest, and constancy of the boiling point being indicative of constancy of composition, the variations of the boiling point of this solution show the marked and increasing variations in composition between the earlier and later portions of the vaporized solution.

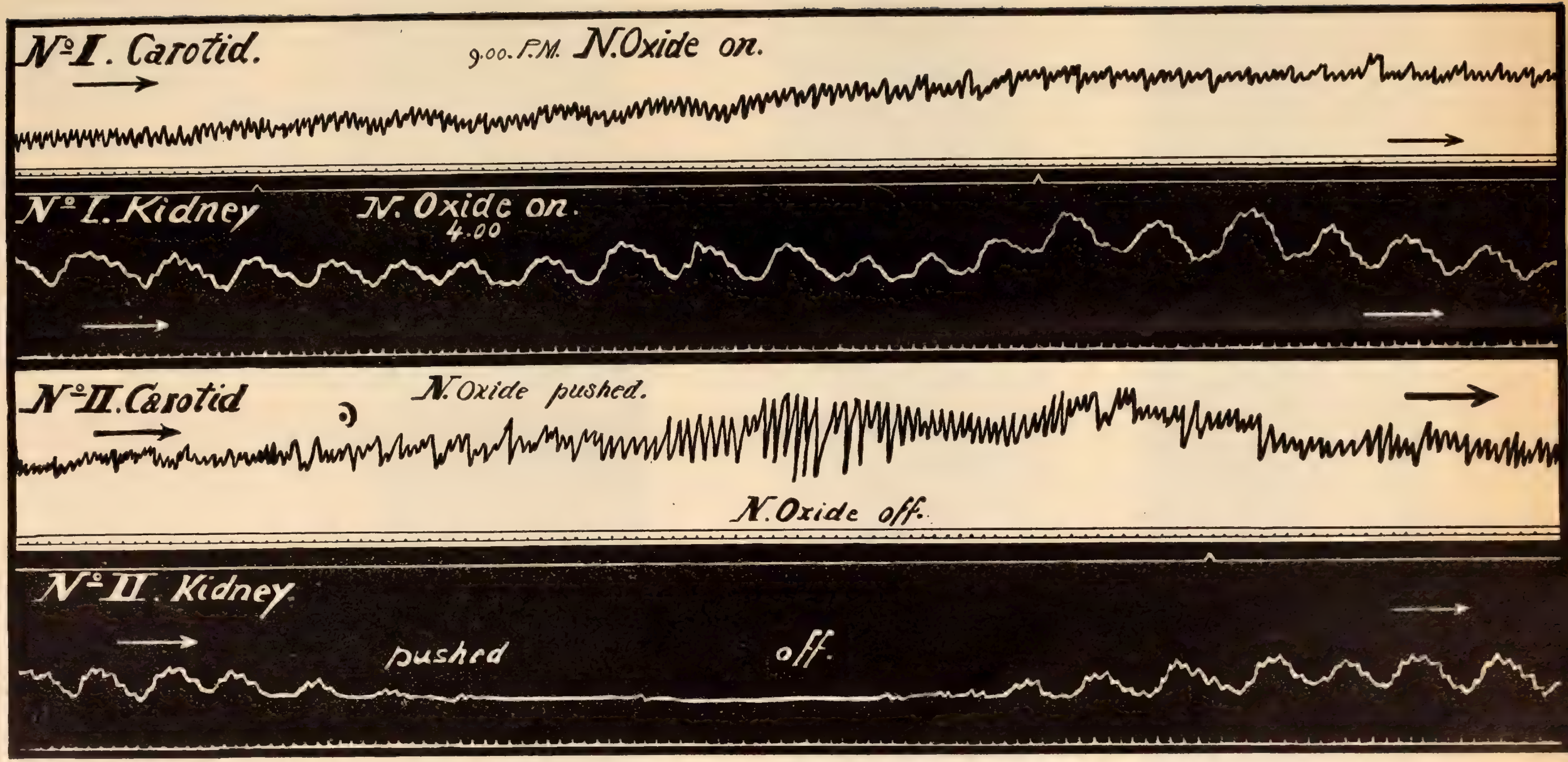

Fig. 7.—Oncometric and carotid tracings following the administration of nitrous oxide.

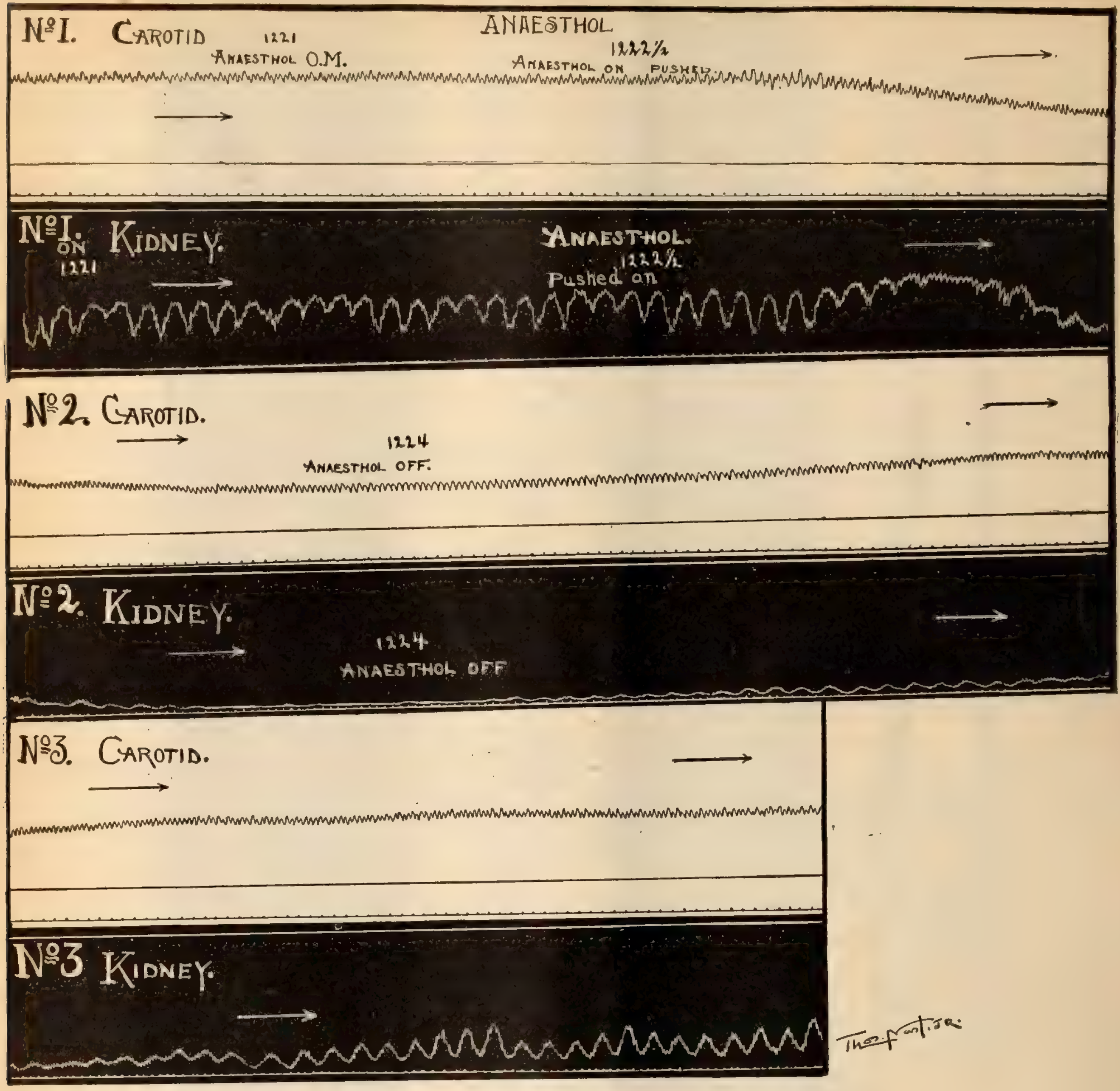

Fig. 8.—Oncometric and carotid tracings following the administration of anæsthol.

had to be employed for twenty minutes before the anæsthesia could be resumed, and during this period the heart's action was hardly discernible. When the anæsthetic was pushed there were tremors and convulsive twitchings of the lower extremities, associated with the respiratory symptoms. These tremors and twitchings and, lastly, the stertorous breathing and crying noises emitted by the animal when the anæsthetic was first given by the mouth reminded one much of the effect of Schleich's anæsthetic mixture—the respiratory poisoning. We believe the element causing these symptoms to be the ethyl chloride. This, as stated by Ludwig, is an anæsthetic, while benzine, an ingredient of Schleich's mixture, has been clearly demonstrated by Meltzer not to possess anæsthetic properties.

With anæsthol we have (see Fig. 8)—

Carotid Tracings.—The depressing effect of chloroform is clearly demonstrated—in fact, an aggravated effect. By the open method the effect is of pure chloroform; by the semiclosed or closed method, it is more depressing than any of the anæsthetics.

Kidney Tracings.—By the open method, ninety-five per cent. of air, the kidney tracings are the same as with chloroform. By the semiclosed or closed method the tracings are characteristic of ether; possibly the animal recovers slightly quicker when the anæsthetic is suspended.

Renal Secretion.—Absolutely no secretion was procurable after the use of anæsthol was begun. At the close of the experiment a few drops of extremely bloody

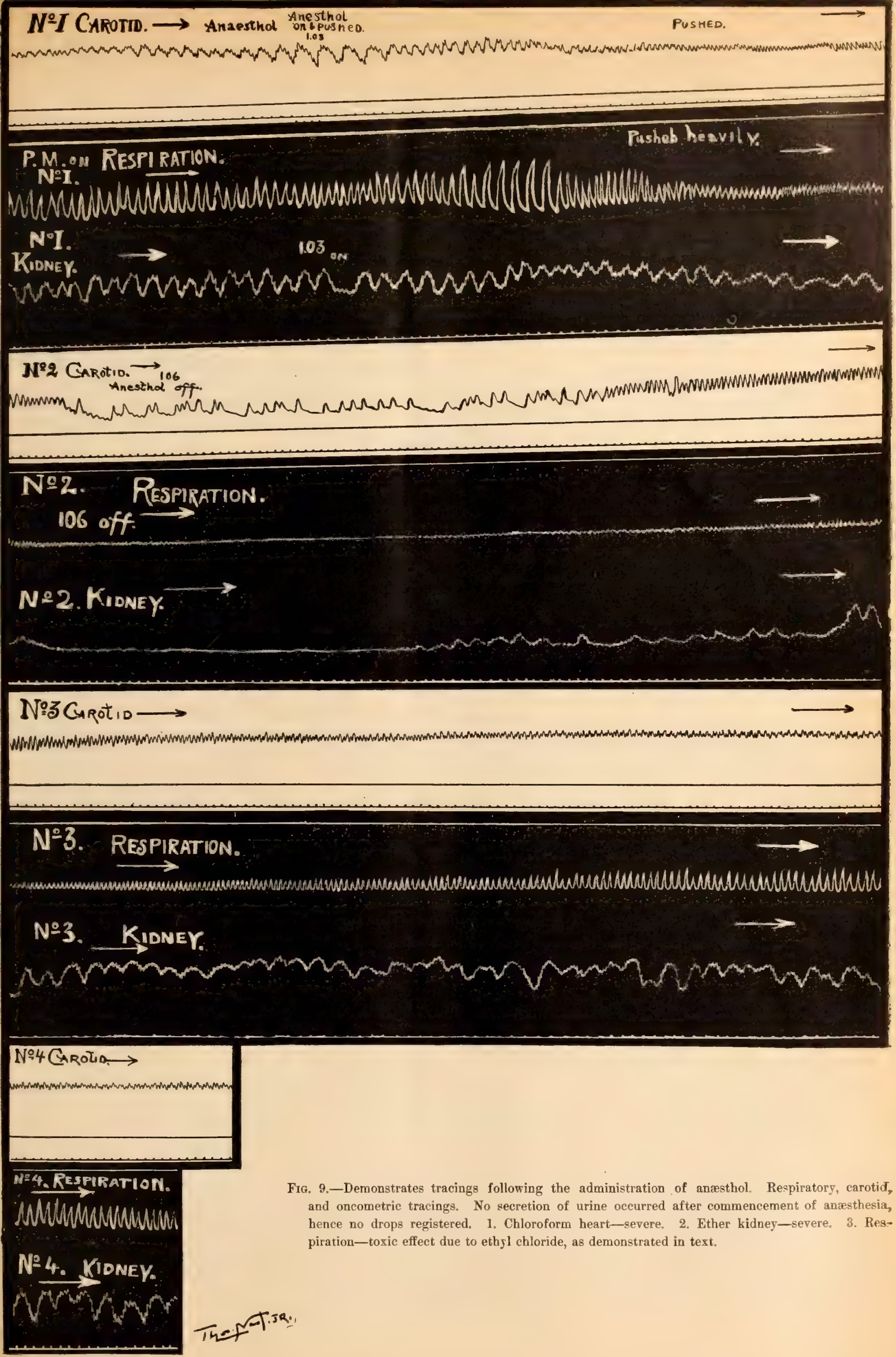

Fig. 9.—Demonstrates tracings following the administration of anæsthol. Respiratory, carotid, and oncometric tracings. No secretion of urine occurred after commencement of anæsthesia, hence no drops registered. 1. Chloroform heart—severe. 2. Ether kidney—severe. 3. Respiration—toxic effect due to ethyl chloride, as demonstrated in text.

albuminous urine were procurable in the ureter cannula. Great care was taken in obtaining this, and it was traced directly to the pelvis of the kidney. In spite of the renal circulation recovering possibly a fraction more rapidly than with ether, at no time was urine noted to drop from the cannula, and there was evidently a severe specific effect on the renal secretion.

We were inclined to impute this aggravated effect to the ethyl chloride. Fig. 9 shows both the respiratory and cardiac depression, and also the effects of ether on the kidneys. The respiratory effects are clearly demonstrated. Note the absence of urine drops.

(*To be concluded.*)

REPORT OF CASES OF
SUDDEN DEATH FROM PULMONARY EMBOLISM
FOLLOWING INJURIES OR OPERATIONS IN THE PELVIC REGION.*

By GEORGE P. BIGGS, M. D.

SUDDEN death from pulmonary embolism is often so entirely unexpected, owing to absence of premonitory signs or symptoms, that it is important to know the conditions which may precede such a complication. I present to you very briefly a report of five cases, selected from the records of the last three hundred and fifty autopsies at the New York Hospital, in all of which embolism was secondary to injury or operation in the pelvic region:

CASE I. *Intracapsular Fracture of Femur; Thrombosis of Iliac Veins; Pulmonary Embolism.*—J. P., aged eighty-two years, United States. History of a fall, striking on his left hip, causing intracapsular fracture of the femur. A splint was applied and the patient kept in bed. He was apparently doing well when, on the sixth day, he walked to the lavatory, and was there seized with severe dyspnœa. With help he returned to his bed and there died of respiratory failure in about five minutes.

Autopsy.—The fractured femur showed but slight evidence of repair. The pulmonary artery going to the right lower lobe was completely filled with dark-red ante-mortem coagula, which were not adherent to the vessel wall. Similar loosely adherent thrombi nearly filled the left common and internal iliac and the right internal iliac veins. On the left side the thrombus had a rounded end, but on the right side it was ragged, as if portions had broken away.

CASE II. *Dislocation of the Hip; Fractures of Ribs and Pelvis; Thrombosis of Iliac Veins; Pulmonary Embolism.*—J. G., aged thirty-six years, United States, clerk. Patient was struck on the back by a falling barrel, which caused fracture of several ribs on the right side and dislocation of the left hip. His condition was serious at first, but after five weeks of gradual improvement there was every reason to expect recovery. Improvement steadily continued for another week, when he had a violent chill, followed by cold perspiration, cold extremities, cyanosis, irregular heart action, and death within a few minutes.

Autopsy showed that the immediate cause of death was occlusion of the left branch of the pulmonary artery and its main branches by red and mixed thrombi, which were originally molded in veins about the size of the iliacs. Similar thrombi were found in the left internal iliac vein and its branches, but the other pelvic veins were free from thrombi. Partially repaired fractures of the left acetabulum, spine of the left ischium, and the second, third, fourth, fifth, and sixth ribs of the right side were found.

CASE III. *Operation for Inguinal Hernia and Hydrocele; Thrombosis of the Femoral and Iliac Veins; Pulmonary Embolism.*—A. F. J., aged sixty years, Ireland, porter. History of hydrocele and irreducible hernia. The sac of each was dissected out and removed. Patient was doing very well, when, on the fifth day after operation, he suddenly died after an attack of violent dyspnœa.

Autopsy.—The wound was in good condition. Both branches of the pulmonary artery were packed full of non-adherent thrombi, chiefly of the red variety, but in parts mixed. When straightened out the thrombus in the left pulmonary artery was thirty-five centimetres in length and three fourths to a centimetre in diameter. Judging from its size, it must have formed in a femoral vein. It was folded upon itself several times as a result of blood pressure from behind. The thrombus in the right pulmonary artery was folded once upon itself, and its larger size would indicate formation in the inferior vena cava or a common iliac vein. It measured twenty centimetres in length and half a centimetre in thickness. Lying free in the inferior vena cava and common iliac vein was a third thrombus, twenty-two centimetres long and a half to three quarters of a centimetre in diameter, probably formed in the femoral vein.

CASE IV. *Appendicitis with Perforation; Embolism of the Pulmonary Artery.*—R. O., aged eighteen years, United States, clerk. History of acute appendicitis for two days. At operation a pocket of pus was found about the perforated appendix. Convalescence was prompt, and on the seventh day temperature, pulse, and respiration were perfectly normal. Death occurred suddenly on the eighth day.

Autopsy showed both branches of the pulmonary artery filled with red ante-mortem thrombi, which were originally formed in vessels of smaller size, probably the iliac veins. No additional thrombi could be found anywhere in the body.

CASE V. *Suprapubic Cystotomy for Vesical Calculus; Pulmonary Embolism.*—G. W., aged sixty-three years, United States, barber. The patient did particularly well after the operation, and had been told that he could go home the following week. On the tenth day after the operation he suddenly developed marked dyspnœa and severe præcordial pain and distress. Death resulted in about twenty minutes.

At *autopsy* the pulmonary artery and its main branches were found to be packed full of soft, red, ante-mortem coagula, which were not adherent to the vessel walls. A similar coagulum five centimetres long was found free in the inferior vena cava. The diameter of all these coagula suggested their probable formation in the iliac veins, but no thrombi could be found in these vessels.

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* Read before the Society of Alumni of Bellevue Hospital, June 7, 1899.

These cases are reported chiefly with a view to calling attention to the importance of considering this not infrequent fatal complication when giving prognoses. In not one of these five cases were there any symptoms to suggest thrombosis of the pelvic veins. The conditions preceding the development of pulmonary embolism were such as to warrant a favorable prognosis in each case. It is this absence of symptoms of thrombosis, and the convalescent state of the patient usually existing prior to loosening of the thrombi, which often leads the physician into the embarrassing position of having his patient suddenly die soon after he has made a most favorable prognosis.

The most constant symptoms recorded in these cases were dyspnœa and præcordial pain and distress. In one case the first symptom was a violent chill, which was followed by cold perspiration, cold extremities, cyanosis, and irregular heart action. Death usually occurred so soon after the arrival of the physician that no detailed statement of symptoms could be made.

So important is it to make careful search in order not to overlook such emboli that I have been led to adopt a routine plan of carefully removing and examining the blood which flows into the pericardial sac after removal of the heart, and then examining the pulmonary artery. The reason for this is that large emboli are apt to fall out of the pulmonary artery when it is cut across, or later, when the lungs are raised for removal, and in this way they may be overlooked. I would strongly urge this method of examination in all cases of sudden death, particularly if preceded by dyspnœa.

The following brief conclusions are drawn from a study of a number of cases, of which those reported are good examples:

I. The emboli are usually in the shape of cylinders, a little smaller than the lumen of the vein in which they form. Such cylinders often become folded several times upon themselves as they are forced into the branches of the pulmonary artery.

II. The thrombi formed in veins are chiefly of the red variety, though occasionally they are mixed. They may be quite firm and slightly stratified, though at times, to the untrained eye, they differ but little from post-mortem coagula.

III. Once started, thrombi in the veins tend to grow rather rapidly in the direction of the blood current.

IV. At the best, the thrombi are but loosely attached to the wall of the vein, and may separate completely, leaving no distinct mark to indicate the area of attachment, as was the condition in two of the cases reported.

V. A long, cylindrical thrombus may have but a very small base of attachment to one side of a vein, while the remainder of the thrombus floats free in the blood. This explains the absence of symptoms of venous obstruction.

VI. While infection may sometimes play an important part in the causation of these thrombi, such does not usually appear to be the case. It seems probable that simple extension of thrombi formed in smaller veins, which were damaged at the time of operation or injury, or by subsequent inflammation, will explain the occurrence of thrombi in the large neighboring veins. Slowness of venous circulation naturally favors this process.

PREGNANCY COMPLICATED BY UTERINE FIBROIDS.*

By HENRY C. COE, M. D.

Although much has been written on this subject, which forms a favorite theme for discussion before obstetrical societies, it is one that can never lose its interest for the general practitioner as well as for the specialist.

My attention has been particularly directed to the subject of fibroids complicating pregnancy from the fact that within the past week I saw in a small hospital in a neighboring city three cases in succession which illustrated three separate phases of this question. I, of course, do not feel at liberty to refer to them except in a general way, but I shall allude to them further on in connection with the indications for treatment.

The two points of interest with regard to what may be called the natural history of fibroid tumors of the gravid uterus are: How does pregnancy influence the growth and environment of the neoplasm, and what is the variation in the progress of pregnancy when complicated by such tumors? These are discussed in all text-books and monographs. As this is a purely clinical report, I shall merely cite a few cases bearing on these questions.

With regard to the first, it may be stated briefly that the rapidity of growth of a fibroid under the influence of pregnancy is in direct proportion to its more or less intimate relation to the uterus. Thus, a pedunculated subperitoneal growth may remain unchanged, while an interstitial tumor undergoes marked enlargement. On the other hand, a subserous fibro-myoma situated in the lower uterine segment, or displaced and impacted in the *cul-de-sac,* may increase in size simply from obstruction to its circulation. The position of the tumor is therefore of no little importance.

I have seen several cases of multiple subperitoneal fibroids in which the influence of pregnancy seemed to be negative.

The following is a good example:

I saw the patient, aged thirty-five years, in consultation, when she was about five months pregnant. She had been married ten or twelve years without conceiving, so that it was important that she should bear a liv-

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* Read before the Society of Alumni of Bellevue Hospital, June 7, 1899.

ing child. Two fibro-myomata of the size of an orange were easily palpated at the fundus uteri, and a third, of the same size, in the anterior surface of the uterus, just above the junction of the lower and middle segments. As the uterus had already begun to rise above the pelvic brim, it was decided not to interfere with the pregnancy, which went on to full term, the patient being delivered of a living child after an easy labor. A careful examination of the growths two months later showed no appreciable increase in their size, while the uterine cavity measured about three inches and a half.

In a recent case, seen in consultation at the beginning of the fifth month, the tumor (as large as a grape fruit) occupied the lower segment anteriorly and was apparently firmly impacted, so that doubt was felt as to the advisability of inducing labor on account of the obstruction, and abdominal hysterectomy was elected by the patient. Under anæsthesia, two weeks later, the tumor was easily pushed up into the abdomen and pregnancy was allowed to continue.

In the following case, however, the outcome was not so fortunate:

The patient, aged forty-two years, was under my observation for nearly fourteen years. She attended one of my clinics for several years, having an extraperitoneal fibroid, not larger than an English walnut, situated in the lower uterine segment and displacing the bladder anteriorly. I lost sight of her for three years, and then assisted at an explorative abdominal section performed upon her for hydronephrosis due to pressure of the growth on the ureter. Although the tumor was not disturbed, the manipulations during the operation resulted in the removal of the pressure and the disappearance of the hydronephrosis. A year later she was referred to me in the eighth month of pregnancy, and I found that the tumor had quadrupled in size, so that the conjugate was contracted to two inches and a half. I performed Cæsarean section two weeks before term (the child is now eight years old), and the patient remained in good health for four years, when she again came under my care with a large pyonephrosis, from which she succumbed two weeks after admission to the hospital, her condition being so bad that an operation was deemed unjustifiable. The specimen, which is now in the pathological collection at the University and Bellevue Hospital Medical College, is of unusual interest, and furnishes a striking illustration of the fact that the position of a fibroid complicating pregnancy is more important from an obstetric standpoint than its size.

Another case illustrates even more clearly the influence of pregnancy on the growth of fibroids.

The patient, aged twenty-five years, when three months pregnant, was found to have a sessile subserous fibroid of the size of an orange, in the lower uterine segment posteriorly, but quite movable. The tubes and ovaries were removed by an eminent surgeon, with the view of arresting the growth of the tumor. The operation, of course, did not accomplish this result, and the neoplasm continued to enlarge as pregnancy advanced, until at the time when I saw the patient (at the sixth month) it had doubled in size and filled the *cul-de-sac,* although it was not impacted. My advice to wait until near term and then to do a Porro operation was rejected, and labor was induced, the fœtus being removed piecemeal with great difficulty and no little risk to the mother, who still has her tumor, but is without ovaries or any hope of future maternity.

In connection with this case I may be permitted to refer briefly to another in which the danger of pregnancy complicated with fibroids is even more forcibly demonstrated. The patient was the wife of a doctor, and was herself a physician. She had been under electrical treatment on account of a large interstitial fibroid of the fundus uteri, with a smaller growth in the lower segment anteriorly. She suspended treatment, became pregnant, and aborted at three months. The fœtus was said to have been expelled, but the placenta was retained, and when I saw the patient she was profoundly septic. It was found to be absolutely impossible to dilate the long, rigid cervical canal on account of the presence of the lower tumor, and not even a sound could be passed into the uterus. The patient's condition was such as to lead me to believe that she would not survive a hysterectomy, although I might have performed it had she been in a hospital, and she died the next day. In this case it was clear that the tumors had rapidly increased in size under the influence of pregnancy. It seemed incomprehensible that a woman with a medical training should have been willing to marry, knowing that she had a large fibroid, and that her husband and herself did not recognize the danger of allowing pregnancy to continue under the circumstances.

As regards the influence of the neoplasms on the course of pregnancy, it may be said in general that it may proceed normally, even in connection with interstitial and impacted subserous growths. With intrauterine neoplasms complicating pregnancy I have had little personal experience, though I believe that when small they are less apt to disturb the course of pregnancy than to become a source of danger by reason of their tendency to undergo degenerative changes after delivery.

That pregnancy may be entirely masked by fibroid tumors is shown in the two following cases:

An unmarried woman, aged thirty-three years, had noticed a large mass in the lower abdomen a year before she came under my observation. It gave rise to no symptoms until three months before, when it began to grow rapidly and caused marked pressure effects. In the mean time menstruation had been absent. The possibility of pregnancy was strenuously denied. There were no breast changes or other symptoms. Supravaginal amputation was performed, a large interstitial growth being removed. The uterus contained a three months' fœtus, which it was difficult to believe could have developed much longer on account of the encroachment of the tumor upon the uterine cavity. She made a rapid recovery and was discharged on the twenty-first day.

An unmarried colored woman, aged forty-four years, was sent to me with multiple fibroids filling the entire abdomen and extending as high as the stomach and liver. She was supposed to have reached the climacteric. Little could be learned with regard to her history, except that the neoplasm had grown rapidly during the last four months, giving rise to pain, dyspnœa, and œdema.

Abdominal hysterectomy was performed and a four months' fœtus was found within a long, narrow uterine cavity, situated in the midst of the mass of fibroids. She made an afebrile recovery. I did not think it worth while to inquire too curiously into the causes of the interesting combination of physiological and pathological conditions in these two cases, feeling that they were doubtless obscure to the patients themselves.

The tendency of gravid fibroid uteri to expel their contents prematurely has often been emphasized, but I believe that too much stress has been laid upon it, as well as upon the subsequent danger of hæmorrhage. That there is some risk of torsion in the case of pedunculated growths is well recognized; in fact, I have just discharged from the hospital a patient in whom this accident occurred six weeks ago, before the fifth month of pregnancy. I operated without delay, removing a small tumor, which already showed evidences of beginning necrosis. Convalescence was normal, and I have every reason to believe that she will go on to full term and have a natural delivery, as in a previous case.

It is often asked, Should we advise young women with fibroid tumors of the uterus not to marry? Under some conditions, yes, if we detect the growth before marriage. But in the majority of the cases they give rise to no symptoms and are only discovered by the accoucheur who follows the commendable practice of examining his patients during pregnancy. It may be said that any fibroid in a young woman which gives rise to marked symptoms (hæmorrhage, pain, and pressure effects) should be regarded as a positive contraindication to matrimony. But love often laughs at gynæcologists as well as at locksmiths. Fortunately, many patients with fibroids remain sterile, though others may become pregnant under apparently impossible conditions.

A young woman entered the Woman's Hospital, while I was house surgeon, on account of a large interstitial fibroid, which gave rise to exhausting hæmorrhages. She refused operation (fortunately for her, as hysterectomy was almost invariably fatal in those days), and after remaining for several months was discharged with strict injunctions to avoid matrimony. She promptly married, became pregnant, aborted at three or four months, and nearly lost her life from hæmorrhage.

Certainly marriage for a woman with an intrapelvic tumor is rather an interesting and uncertain experiment.

My views with regard to the treatment of fibroids during pregnancy have been outlined in the cases reported. I am fully in accord with the conservative trend of modern abdominal surgery, and would not interrupt the pregnancy if it were possible to prolong it, without undue risk to the mother, until the fœtus was viable. An elective Porro operation at the present day is attended with no more danger than a supravaginal amputation at the third or fourth month. Before deciding positively about any operative interference an examination under anæsthesia is advisable, when the condition may prove to be such that the case may be safely left to Nature.

27 East Sixty-fourth Street.

PEMPHIGUS CHRONICUS VULGARIS OF THE LARYNX AND MOUTH.*

By J. H. BRYAN, M. D.,
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The following brief sketch of a case of pemphigus chronicus vulgaris affecting only the mucous membrane of the larynx and mouth is of interest on account of the rarity of this affection.

In this country, at least, it must be extremely uncommon, for I am familiar with only one or two reports of cases by American authors, the most noticeable one being by Dr. Lewis H. Miller, of Brooklyn, who, in the *New York Medical Journal* for July 3, 1897, reports one case.

The foreign literature is, however, much more replete, especially that of the Germans. The younger Schrötter, however, does not consider it such an uncommon affection, having had a personal experience of five cases.

Mrs. —— consulted me in October, 1898, for the first time, complaining of certain indefinite sensations in the region of the larynx, and stated that for six months or more she had had trouble with the throat. The attacks were frequent, but not of long duration, the principal sensation being that of a foreign substance in the larynx.

She has always enjoyed good health, save for occasional attacks of muscular rheumatism, which have not been severe enough to occasion her much inconvenience.

Her appearance gave me the impression of a well-nourished person, although a little paler than usual.

The examination showed the nose, nasopharynx, and pharynx in good condition; but with the mirror a small white membranous deposit, about a quarter of an inch in diameter, was observed on the laryngeal surface of the right half of the epiglottis.

While in the act of making a local application with a cotton-tipped applicator, this deposit was detached and brought away on the cotton. The membrane beneath was red, but it did not show any loss of substance such as is met with in the various forms of ulceration that affect mucous surfaces. I sent this piece of membrane, which was of considerable thickness, to Dr. Jonathan Wright, requesting him to make an examination of it for me, at the same time venturing the opinion that we had in all probability a case of simple membranous laryngitis to deal with. I tried also to reassure the patient her affliction would soon be a thing of the past. In less than four days she returned to the office saying the trouble had returned, and she felt it on the left side of the throat, referring to the larynx. On examination a deposit of membrane of the same character, and about the same size, was observed on the left half of the laryngeal surface of the epiglottis—the seat of the former deposit looked perfectly normal.

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* Read before the American Laryngological Association at its twenty-first annual congress.

About this time I received a statement from Dr. Wright, giving it as his opinion the case was one of chronic pemphigus vulgaris, and also giving me the results of his microscopical and bacteriological examinations, which were as follows: Under the microscope the membrane showed a fibrinous deposit containing numerous round cells, but no epithelium; staining with Gram's method showed a large number of cocci, but no bacilli.

I am free to confess that up to this time I was not familiar with this condition, never having seen a case before. There have been frequent outbreaks since the original observation, the membranous deposit making its appearance on one half of the epiglottis, disappearing in a few days to reappear on the other half of this cartilage.

The patient denies ever having had any cutaneous disease. About three weeks ago she complained of feeling much worse, especially of being very nervous and weak. The examination revealed a small deposit on the epiglottis, and for the first time the gums were noticed to be quite red and swollen. There was a membranous deposit on the upper left half of the gum about an inch in length, and a smaller deposit on the lower gum just below the incisor teeth. She was a little more anæmic looking, and she complained of a slight swelling of the lower extremities.

An examination of the heart showed nothing abnormal, except that the sounds were not quite as clear as they should be in a vigorous person.

A urinary analysis showed a slight trace of albumin with a few blood-corpuscles and pus cells, and a few granular hyaline casts.

An examination of the blood showed nothing abnormal.

Pemphigus is a varied form of skin affection characterized by the formation of bullæ, and whether it be of the benign or malignant variety dermatologists consider it a very rare disease. The eruption on the mucous membrane of the upper air-passages is noticed in all forms of the disease, being more common in the chronic than in the acute variety. It is generally secondary to the skin eruption, gradually extending into the mouth, pharynx, larynx, and into the trachea and bronchi; and also occasionally affecting the conjunctiva. There are, however, a number of instances in which the eruption makes its appearance on the mucous surfaces primarily, as in my case; and cases are cited by Mesnard, Bleibtreu, Penrose, Carré, and Miller. Generally the appearance of the eruption on the mucous membrane is characterized by the formation of a bleb, which is filled with a yellowish fluid such as we find in the bullous formations on the skin. This bleb finally ruptures and a milky white membranous deposit remains. It is questionable whether the appearance of the eruption on the membrane is always accompanied by the formation of bullæ. In my case I have never been able to recognize them, although the patient is able to determine the time of the appearance of the eruption on the membrane by a pricking sensation in the larynx, and she has been in my office within half an hour of this time.

According to Chiari, the bullæ are the result of a rapid exudation, while in a slow exudation it simply causes a raising and discoloration of the epithelium, giving the grayish deposit the appearance of a diphtheritic membrane. Acute pemphigus of the mucous membrane is always accompanied by a high fever, while the chronic variety is generally without fever, and occurs in those who feel otherwise well.

The diagnosis of pemphigus of the larynx, when it is secondary to the skin eruption, offers little or no difficulty, but it is quite another matter when it makes its appearance primarily on the mucous membrane. It is to be distinguished from diphtheria, tuberculosis, syphilis, herpes of the larynx, and finally the caustic effects of acids or lye.

The ætiology of pemphigus is extremely obscure, the majority of authors holding to the tropho-neurotic theory. Microscopic and bacteriological examinations have been made in Mandelstamm's, in Miller's, and in my case, all of which were of a negative character.

This is essentially a chronic disease, and may last months before disappearing or wearing the patient out.

Local applications have no influence whatsoever, alkaline washes probably giving the patient some relief from the constant irritation in the mouth and larynx.

The only remedy which is supposed to have the slightest influence on the disease is arsenic, either in the form of the Asiatic pill or Fowler's solution carried to the point of tolerance. This latter remedy has acted well in my case. The patient at the time of writing has not had an outbreak either in the larynx or mouth for two months.

DRY HEAT OF HIGH DEGREE AS A THERAPEUTIC AGENT.

By C. E. SKINNER, M.D.,
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(*Continued from page 626.*)

Case III. *Chronic Rheumatism.*—I was called to see Mr. H. A., mechanic, June 6, 1898. He was suffering from acute inflammatory rheumatism involving left knee and ankle, both badly, but the knee the worse. At that time I was not acquainted with hot air, but gave him the best treatment then at my command—viz., a good, vigorous salicyl saturation. To make a long story short, as my business with this case, as referred to in this article, does not apply to this early stage of it, the patient got lamely up from his illness after some weeks, but the disease settled in the foot at the medio-tarsal articulation and became chronic in spite of all I could do. Salophen, alkalithia, etc., I administered in succession. Local means were of no avail, and he had stopped treatment in despair, so far as I was concerned, substituting in my place his friends and the druggists, who were endeavoring to help him through the medium of household recipes and patent medicines—an experience no more new than happy for any of us, I fancy. By November, 1898, I had become sufficiently familiar with hot air to believe it would be worth trying in this case, and I hunted him up. He was still suffering, as he had been for three months, not having been able to remain at his work all day a dozen times since June, and many days having to remain at home altogether. He was glad to try anything which promised him relief, and I gave him his first treatment on November 13th. Pain entirely disappeared during treatment, but the sensation of stiffness remained as bad as ever. Patient was delighted at the freedom from pain. He was directed to return on the second day.

November 15th.—After walking home on the day of first treatment pain was as bad as ever, and has been ever since. Administered hot air and requested him to return on the second day.

17th.—Reports himself as feeling much better. Pain returned on the day following last treatment, and has remained ever since, but not nearly as severe as before. Hot air administered.

19th.—Had a little pain following his walk home after last treatment, but yesterday and to-day has been entirely free from it. Hot air administered, and patient directed to report in five days anyway, and sooner if pain appeared.

24th.—Patient reports no pain at all and no stiffness since last treatment. Foot feels as good as it ever did. Treatment was administered once more at this time but the trouble had ended six days previously. The cause of five months of suffering and disability had been eradicated in four days.

Case IV. *Chronic Sciatica.*—M. T. M., seventy years old. Had suffered with sciatic rheumatism constantly for the past two years, and almost constantly for the past four years. Had tried various methods of treatment under both professional and lay guidance, with no satisfactory results. First consulted me September 24, 1898. I treated him by the usual methods with fluctuating results until November, by which time I decided to try him on hot air.

November 8th.—My operating room is on the second floor, and I observed that in ascending the stairs patient was obliged to place both feet on one stair before he could effect the next rise, because of inability to bend his hip joint. Treatment was administered and pain had disappeared in ten minutes. After treatment, for the first time in many months, he was able to place the foot belonging to the infirm leg upon the opposite knee to lace his shoe. Walked downstairs without pain or stiffness.

9th.—Felt slight painful twinges this morning, but nothing else since treatment except on going upstairs. Hot air administered and patient requested to return the next day but one if he continued to improve, but sooner if he grew any worse.

11th.—No pain at all since the evening of November 9th, and he says that people whom he meets are remarking that he "doesn't walk lame any more." Extreme flexion of thigh upon body causes pain, but I am unable to provoke it by any other manipulation. Treatment administered and patient told to return in a week anyway, and sooner if symptoms returned.

17th.—Patient reports no pain or stiffness at all since last treatment. Leg movable in any direction and to any normal extent. No pain elicited by any sort of manipulation. Has been accidentally wet through twice since his last visit and been unable to change his clothing for some hours afterward, with no unpleasant sequelæ. Hot air was once more administered and patient discharged with instructions to call again immediately if any more trouble appeared, which he promised to do. He has not appeared since. Four years of suffering terminated in as many days.

In spite of these results, which are pregnant with significance and have been constantly paralleled in subsequent cases under my care, opponents of the measure are not wanting. Let us consider the principal grounds alleged as supporting this opposition.

Hot air has been frowned upon because "its sedative action lasts but a short time, results in no permanent benefit to the patient, and does not shorten the duration of the disease," and because "if we must give medicine anyway, we might as well give it without the troublesome and expensive hot air."

To the first I would answer that it is our imperative duty to relieve the patient from all the pain possible. If we can relieve him for only a short time, then he should be given the benefit of our ability to that extent even if it ended there. When it is possible, however, by successive repetitions of a measure to cause one period of relief, however short, to follow immediately after a preceding period, we are securing a result which amounts practically to permanent relief; and when the repetitions of the measure are not inimical to the patient's welfare, and they certainly are not when the agent employed is hot air, it is unjustifiable to withhold this comfort from the sufferer. In addition to the humanity of it we secure a directly favorable influence upon the course of the disease by protecting the victim's nervous system from the depressing influence of pain and loss of sleep, both of which are powerful disturbers of tissue metabolism. Hence hot air is of "permanent benefit to the patient" when properly and intelligently applied with sufficient frequency—every three hours if necessary.

In reference to a so-called permanent "*cure*" of the disease, no one who stops to think a minute will ever expect to keep a patient free from rheumatism all the rest of his life by any one course of any means of treatment. All that can be done is to rid him of the present attack by clearing away the micro-organisms and their products that are in his system at that time, rendering him as comfortable as possible during the period of elimination. If the patient has the diathesis, and favorable constitutional and environmental conditions obtain, nothing can prevent a fresh invasion of germs and the development of another attack. When a patient recovers from typhoid fever or pneumonia we do not promise that he will never suffer from it again. We can only be sure that he has recovered from this one attack. Favorable conditions will certainly induce another, but we do not for that reason clamor for a permanent cure of typhoid or pneumonia.

If not in these diseases, why then in rheumatism, which differs from them in this connection only in so far as that its specific morbific elements are much more plentifully distributed, whereby more invididuals are exposed to its influence, and that when once they have gained a foothold in the system they possess the power of reproducing themselves, without any further reenforcements from the outside, to an extent which renders its duration, when left to itself or inefficiently treated, absolutely indefinite? Rheumatism is not, like the others, a self-limited disease. Is it not much more logical, then, to welcome any measure which enables us to end *an attack* of rheumatism more quickly and comfortably than was possible before rather than to vilify it because it does not produce an instantaneous cure and render the patient immune for life? Even if the disease returned every three months, is not the possession of a measure which enables us to end the attack of such a disease as quickly and comfortably as is the case with hot air, something upon which we should most sincerely congratulate ourselves rather than seek to discredit the remedy?

As for the influence upon the "duration of the disease," as I have said previously, it seems to exhibit little if any inherent curative power here when relied upon alone, but if a judicious administration of drugs had accompanied the hot-air applications, the author of this assertion would have observed a vast deal of shortening in the "duration" of his cases. It needs the help of drugs to effect a cure. Even, however, if it had no power under any circumstances of shortening the duration of the disease, the fact that it is capable of completely and almost immediately relieving the pain of such a horribly painful affection as rheumatism, without the production of any deleterious or unpleasant secondary effects, would entitle it to a place in the highest rank of therapeutical measures.

In reference to the second objection, "If we must give medicine anyway, we might as well give it without the troublesome and expensive hot air," every physician sees cases frequently in which remedies will not "take hold." One after another will be tried in increasing doses. Meanwhile the patient drags on, day after day and week after week, without any or only a slight and irregular improvement; stomach impaired, nervous system and general condition growing worse and worse under the continuous combined depressions of pain and rheumatic toxines, until he and the physician too are tempted to despair of ever being able to get rid of this "old man of the sea."

Treating these cases, which frequently will become chronic in spite of all we can do, is extremely trying and unsatisfactory to both physician and patient; and certainly any agent which will change all this and cause our medicines to act, and act rapidly, should be hailed with joy. Hot air is such an agent. When a patient is responding well to medication it may be proper enough, if he has plenty of time to stay in bed, to give medicines "without the troublesome and expensive hot air"; but when we consider that the last-mentioned agent markedly increases the rapidity with which the disease is eliminated by increasing directly and indirectly the activity of the elements with which we are combating the pathological process, it assumes an importance equal to the medicines and more than trebles their value. Even under the most vigorous administration of the salicyl and salophen regimen—and this combination is undeniably as specific in combating rheumatism as any drug we now know is in combating any disease—it takes several hours, from ten to twenty-four usually, to secure a marked remission of pain. Hot air accomplishes this in from fifteen to thirty minutes, a result which the patient at least regards as of considerable importance.

The application of this agent is more or less "troublesome," I admit, but this element of objection scarcely deserves a mention, and certainly not a discussion. When the relief of human agony is the point to be gained, a little trouble, or even a great deal of trouble, has no right to enter the problem at all.

The idea that the treatment is excessively "expensive" is founded upon a narrow and short-sighted view of the facts. Let us consider a moment. An attack of rheumatism detains the patient from his business from three days to three weeks, and occasionally three months. Infrequently an attack will prevent resumption of daily duties, at least in anything like a satisfactory manner, for six months, as illustrated in Case II, and even longer. This involves a loss of income for the patient, an outlay for his physician's fees which will be great in proportion to the severity of the case, and prolonged if the case drags, and an outlay for medicines in the same proportions. I shall only mention in this connection the outlay for a trained nurse, because the majority of those who suffer from this disease, even more than other diseases, are unable to afford a trained nurse and have to depend upon the ministrations of members of the family circle.

Under ordinary good methods of treatment alone the duration of rheumatism may be said to be measured by days and weeks. When hot air is combined with them it dwindles to hours and days. Because of this marked shortening of the period of disability the patient will lose less of his income; because of this and the rapid and marked mitigation in the severity of the symptoms he will have fewer visits from his physician to pay for; his drug-store expenditures will be curtailed, because he will not have to take drugs for such a long time or in such variety, and, if he has employed a nurse, the saving on her wages from the same causes will be an item not to be despised. As contrasted with this, the first cost of hot air is double and sometimes quadruple that of the ordinary treatment, but it is required for such a short time that at the end of the attack the patient's finances are found to be much less impaired than when it is attempted to cure him without it. It renders a severe case comparatively mild, and a mild case very much milder. Whether the freedom from pain during the attack, and the shortening of the period during which it has to be borne, are worthy of any consideration in this connection may safely be left to the verdict of the patient.

Ever since the analogy between rheumatism and malaria was pointed out by Dr. T. J. Maclagan, of London, in the early seventies of this century, thereby suggesting and subsequently demonstrating a microbic instead of a lactic-acid causation, there has been a tendency in the minds of many, and I think I may safely say most, of us to deride and discredit his suggestion that the salicyl compounds stood in as much the relation of a specific to rheumatism as quinine does to malaria. Nobody has denied that the salicyl treatment was the most efficacious at our command in this disease, but its claims to specificness have been assailed. The only tenable ground upon which its assailants have stood is that it failed to cure in many cases. Let us see if this apparent weakness possesses the power of invalidating these claims, and if hot air will not furnish another link in Dr. Maclagan's chain of analogy.

First, if any remedy is to be of benefit in any disease, it must be administered properly—*i. e.*, in adequate dosage and in such form or combination that it can be as easily assimilated and with as few disadvantageous effects upon the patient as possible; and second, and just as necessary, the patient's organism must be susceptible of adequately assimilating the remedy. No matter how specific a medicine, if the victim's stomach is not capable of properly passing it on to the circulation, or if the mysterious sympathetic nerve centres controlling the metabolic activities which represent assimilation are in abeyance from ptomaine intoxication or other causes, give it in as large doses as we please, and no result will follow. Malarial victims are not infrequently encountered who are taking quinine to the point of intoxication, and shaking every day in spite of it. I have seen a patient with a rheumatic focus in her ankle swallow salicin at the rate of twenty-six grammes a day, and the infection spread successively to finger joints and elbow notwithstanding. Under these circumstances patients are unquestionably getting a sufficient dose of the remedies, and, if the preparations administered are moderately soluble under the conditions obtaining in their stomachs, and not sufficiently irritating to goad that long-suffering organ into exhibiting intolerance of their presence, the blood current will be saturated thereby. We get no effect or little effect upon the disease, however. The drug is not being assimilated. Can we explain this arrest of the assimilative function; can we correct it, thus enabling the suffering tissues to appropriate the specific remedy, thereby securing the destruction of their assailants the micro-organisms, and, if so, how?

A living organism is made up of parts, each consisting of smaller parts, and each of these in turn formed by the union of still smaller collections of other yet more diminutive components, and so on until we finally arrive at the primordial protoplasmic cell, which so far as we now know, is the ultimate unit of living tissue. There is reason to believe, however, that this cell is but a collection of other bodies the structure of which is so subtile as to have eluded so far all our means of discovering them. That it possesses life and vitality is proved by its power of reproducing itself spontaneously and of reacting to stimulation; but where these inherent powers lie, of what they consist, or by what process, chemical or otherwise, they manifest themselves, we know nothing. It is, however, through the exercise of just these properties, which at present are buried from us in mystery, that the assimilative function is accomplished.

The smallest and simplest organ of the body consists of a collection of these primordial cells, and its proper nutrition and the maintenance of its integrity, consequently its function, depend upon the proper nutrition, maintenance of integrity and function of each and every of the primordial cells which unite to form it. The part of the body next higher in organization consists of a union of two or more of these collections of primordial cells, all interdependent upon each other, and the complex whole dependent for welfare and nutrition upon the welfare and nutrition of the ultimate primordial cells, until in the complete human body we have a vast number of these cell combinations, all interdependent upon each other for proper functionation, and the whole organism dependent ultimately upon the health of the primordial cell.

The health of these small but important individuals may be impaired in two ways: first, directly, by contact with some substance which will disintegrate their structure, as arsenic, for instance; second, indirectly, by impairment or destruction of some distant organ or group of contiguous cell combinations through that mystical medium by which every part of the body, however minute, is in close communication with every other part, which we call nervous impulse. Witness the arrest of metabolism caused by shock, also the influence of general debility upon local tissue repair.

All poisons do not kill a human body in the same way. Some, as arsenic, kill by directly disintegrating the primordial cell structure; others, as strychnine, kill by acting upon groups of cell combinations, affecting the primordial cells composing them only secondarily. Victims of arsenical poisoning, therefore, show its ravages upon every tissue in their bodies, while death from strychnine occurs in the vast majority of cases from asphyxia caused by unyielding spasm of the respiratory muscles during a convulsion. The small proportion of deaths occurring while the patient is quiet between convulsions are probably due to exhaustion of primordial-cell vitality dependent upon the induced excessive activity of nerve tissue as a whole, as much as to a direct action of the poison upon protoplasm, which last is of the nature of a paralysis rather than an integral destruction. This latter is the point which concerns us here, and is proved by the experiments of Vulpian, who showed that even when nerve tissue was poisoned by large enough doses of the drug to produce paralysis, without antecedent convulsions, the nerve would regain its function when the effect of the poison wore off. The time required for this was too short for regeneration to have taken place, and demonstrates that the paralysis was not due to destruction of the ultimate radicles forming the nerve, but to inhibition of function through action upon it as a whole.

We thus see that inanimate toxic agents exercise selective affinities as regards the tissues, primordial cells or groups of them, unorganized or specially organized tissues, upon which they can act. These differing affinities are, of course, largely dependent upon structural differences existing in the poisons themselves, but they further demand for their full explanation the admission of the fact that divers tissues also exhibit marked differences in structure, by reason of which some of them are unresponsive to agents or processes which do not directly destroy the primordial cell. Of the nature of these differences we are as yet entirely in the dark.

The fact that they exist, however, would lead us to expect that the micro-organisms in diseases owning microbic ætiology would find a soil favorable to their growth in some organs or tissues having more or less specialized function and not in others; that the ptomaines emanating therefrom would exhibit the same properties in this connection that we encounter in other poisons, and that these tissues would always be found more or less affected in the same way in all cases of the same disease, and observation proves this to be true.

The malarial parasite always attacks primarily the red blood-corpuscle, and whatever phenomena obtain in the body as a whole are induced secondarily through the parasite's influence upon the health of the blood-corpuscle, and also by the direct effect of ptomaines produced from itself and circulating in the blood, which pick out and expend their virulence upon the tissues most susceptible to their action. The red blood-corpuscle is technically a tissue; hence we always have the same tissue affected in the same way in all cases of malaria.

The paroxysm, to be sure, does not always occur in the same intensity, or with the same proportionate intensity of its elemental phenomena, but this is explicable by the assumption that it is caused by increase in the saturation of the blood by ptomaines thrown off during the periodical reproduction of the parasite, which, bathing freely every part of the body, would pick out the tissues most susceptible to their influence and act upon these in proportion to the amount of poison present: the more ptomaines, the harder the paroxysm, and *vice versa.* When quinine is given in insufficient doses the activity of the parasite is impaired, and, though we still get a paroxysm, it is of lessened intensity, because the impairment of the germ's activity results in a lessened ptomaine production, wherefore the susceptible tissues are less profoundly influenced.

The same gross result obtains when the quantity of the specific administered is adequate but impairment of assimilation exists. In the first instance sufficient quinine is not available for appropriation through metabolic absorption by the red blood-corpuscle; in the second, enough of the beneficent agent is present, but impaired metabolic capacity prevents adequate absorption. This impairment is due to debility of the general organism, which is shared by each and every one of its parts, because they are all intimately connected with each other by the sympathetic nerve distribution, are all interdependent for welfare and preservation of functional integrity, and an accident to one has an immediate effect upon the function of all the others. In a debilitated man every one of his primordial cells is debilitated.

Hence, in malaria, provided no preexisting debility is present, adequate dosage with quinine, as soon as the disease is established, will almost invariably effect a cure. In the cases in which an insufficient quantity of the specific has been administered in the first place, thereby allowing the micro-organisms and their products to act upon the organism as a whole for an extended time, though with diminished virulence, the metabolic function becomes impaired and we may give quinine by the pound and the patient will not recover. When debility exists at the time of invasion this impairment is of course sooner and more profoundly induced. That, however, does not vitiate the drug's claims to being a specific poison to the parasite. The fact is not that the axe can not cut the wood, but that the wood has been cased in steel. If we remove the steel the axe will cut as well as ever. By what means do we accomplish this object?

(*To be continued.*)

A PLEA FOR
THE FURTHER USE OF CARBOLIC ACID.

By FREDERIC J. ADAMS, M. D.

One of the best of our bactericides is carbolic acid, which has probably been used as extensively as any of our antiseptics. The only drawback to its employment has been that when used in strong solutions it has destroyed the tissue. Now that we have a complete antidote for the acid we have nothing to fear from a very free use of it in its pure form. My method has been for the past eight months to use the crystals, liquefying them, and applying the fluid to the surface with a camel's-hair brush. As soon as the surface appears white I apply alcohol (chemically pure) in copious quantities, and the work is over.

I have been using this treatment in all cases of cellulitis, felons, about ulcers with widespread exudate, carbuncles, erysipelas, and, in short, any and all inflammatory conditions where streptococci and staphylococci are present. My latest experiment was with a case of gonorrhœal vaginitis, where the vagina in its entire depth was exceedingly swollen and the labia were nearly impassable. I saturated a tampon with pure carbolic acid, inserted it into the vagina, let it remain thirty seconds, withdrew it, and douched the parts with one quart of alcohol. The labia had been treated similarly previously. The following day the discharge was meagre and the swelling and inflamed area had subsided. A second treatment effected a complete cure. In no case have I had to made a third application of the acid.

Knowing that alcohol removed all dangers of tissue destruction from the action of the acid, I reasoned thus: We have been using carbolic acid for a long time in the form of from 1-to-20 to 1-to-60 solutions as a compress for inflamed conditions with uniformly good results. Why should we not obtain better and quicker results with pure carbolic acid, which will penetrate and destroy streptococci and staphylococci?

Here is a partial list of patients treated by me and, under my direction, by Dr. Hair at the Emergency Hospital Dispensary, of Bridgeport:

Case I.—John McD., aged twenty-one years. Infected wound on right hand at the thumb, caused by copper wire. Lymphatics very red to the elbow, glands in axilla swollen so that the patient could not bring his arm to his side. Carbolic acid, fifty-per-cent. solution, applied to thumb, back of hand, and along the lymphatic channels. Alcohol applied at the expiration of sixty seconds. Greatly relieved. Patient ordered to report the following day. Much improved. Third day, cured. The fifty-per-cent. solution was used by mistake.

Case II.—Mary S., aged fifty years. Cellulitis of right hand and forearm, lymphatic channels red and swollen, axillary glands greatly enlarged. Pure carbolic acid painted over entire hand, forearm, and lymphatic channels. Bathed thoroughly with alcohol. Reported next day cured.

Case III.—Mary M., aged seventeen years. Employed in a cartridge factory. Erysipelas of the left hand. Applied pure carbolic acid at my office; bathed in alcohol. Reported following day much improved, pain gone, swelling reduced one half. The same treatment was followed the next day. The third day the patient reported at my office cured, no pain or swelling, and with perfect use of the hand.

Case IV.—Millie M., aged six years. Felon on right thumb. Treated with pure carbolic acid and alcohol. Upon the following day cured.

Case V.—Charles H., aged twenty years. Inguinal adenitis due to chancroid. Two applications of carbolic acid with alcohol baths to the afflicted parts were followed by complete recovery.

I think these few cases, taken at random, will show the efficiency of the treatment.

I merely wish to add the history of an attempt at suicide with carbolic acid treated by Dr. Hair with alcohol.

Patient, Mary S., prostitute, aged thirty-six years. Found by ambulance at 10.25 a. m. One pint of alcohol poured down throat at once. 10.25 a. m., one pint of milk. Hypodermic, thirty minims of whisky. 11 a. m., four ounces of alcohol. 11.20 a. m., four ounces of whisky. 11.35 a. m., four ounces of whisky. 12 m., four ounces of whisky. 12.15 p. m., two ounces of whisky. 12.45 p. m., two ounces of whisky. 1.45 p.m., two ounces of whisky. The patient was then removed to the General Hospital, where she showed no signs of alcoholism and very little shock. In two weeks she was discharged from the hospital and returned to her former vocation.

Dr. Hair was relieved at 12 m., hence the decrease in the dose. The reason whisky was substituted was on account of the small quantity of alcohol (chemically pure) in the hospital.

I make no claim of being the first to discover the effect of alcohol as an antidote to carbolic acid, but merely urge the fraternity to a further use of the pure acid, and can assure them of splendid results with cases that have formerly been tedious and trying, and only recovered to bear great scars where the patient had been lanced.

DERMATITIS FOLLOWING THE USE OF ORTHOFORM.

By G. E. DECKER, M. D.,
DAVENPORT, IOWA.

During the last year and a half the writer has used orthoform as a dressing in minor injuries with results that justified all the statements made for it as an analgetic and antiseptic powder, except in two cases, which should be reported. The conditions in both these cases were identical, and, as no antiseptic but mercuric chloride was used, it seems clear that the orthoform was to blame:

Case I.—A machinist, aged twenty-three years, healthy, came to the office suffering from severe contusion and laceration of the right little finger. There was considerable loss of tissue, including the finger nail.

The finger was carefully cleansed with 1-to-1,000 bichloride solution and dressed with orthoform powder and bichloride gauze and bandage. Patient returned in a week and the wound was found to be clean and in good condition. Dressed with orthoform as before.

Three days later he again returned, complaining of much discomfort, and on examination the following condition was found: Finger swollen, painful, and with entire epidermis undermined by small confluent blisters which contained a very sticky serous fluid. There was also a peculiar odor like that of freshly baked bread, which odor continued as long as there was any of this serous discharge.

The loose epidermis was removed and the finger cleaned with three-per-cent. carbolic-acid solution, and iodoform gauze used as dressing. Orthoform discontinued.

In a few days the blisters had spread to the rest of the hand and part of the body, especially the scrotum and legs. There was considerable itching. A free serous discharge from the fingers necessitated changing the dressings two or three times a day. After two weeks the fingers and hand became dry and the blisters disappeared from the body, the original wound healing at the same time.

CASE II.—A machinist, aged twenty years, healthy. Injury consisted of a severe laceration of index finger of left hand. First attention was similar in all respects to that of Case I. This case occurred in the practice of a colleague and was seen during his absence about two weeks after the injury. The epidermis was then found to be entirely loosened and was removed in one piece by splitting it down the dorsum of the finger. There was the same sticky serous discharge and the same peculiar odor. Small blisters were appearing on the other fingers and palm of hand.

The wound and fingers were swabbed with camphophenique and dusted with acetanilide powder. This dressing was repeated daily and in about a week the discharge ceased, the other blisters dried up, and the wound healed by granulation.

Therapeutical Notes.

Hydrastis Canadensis in Hæmoptysis.—According to Dr. Sabadini (*Gazette hebdomadaire de médecine et de Chirurgie*, October 15th), Scarpa prescribes the following:

℞ Fluid extract of hydrastis canadensis, Tincture of hydrastis canadensis,	of each, 225 grains.

M. From twenty to fifty drops to be taken three times daily. When the hæmoptysis is arrested the treatment should be continued for two or three days, and the dose then rapidly reduced to cessation.

Should obstinate cough prevent the hæmostatic effect, morphine or codeine should be added, in the following proportions: To the foregoing prescription add from 4½ to 7½ grains of codeine, or from 2¼ to 4½ grains of morphine. The same dose should be given as before. Scarpa insists on the necessity of the preparation being fresh.

Strontium Lactate in the Treatment of Renal Disease.—Dr. S. Bronowski (*Wiener medicinische Presse*, 1899, No. 5; *Centralblatt für innere Medicin*, November 4th) finds by experiments on animals that strontium lactate causes a general lowering of the blood pressure. If more than a grain for each kilogramme of the animal's weight is given, renal irritation is induced. The diuretic action depends, not on a direct influence of the drug on the renal epithelia, but in all probability on dilatation of the blood-vessels of the kidney, which in turn is dependent on the renal nerves. Clinically, diuresis occurs in the majority of cases, with diminution of the amount of albumin in the urine, so that the drug works favorably in many cases of Bright's disease that are not too far advanced.

The Treatment of Tuberculosis.—*Riforma medica* for September 5th gives this prescription:

℞ Powdered cinnamic acid.....	75 grains;
Oil of sweet almonds........	150 "
Yolk of egg...............	No. 1;
Chloride of sodium in three-quarter-per-cent. solution sufficient to make an emulsion of..................	1,500 grains.

To be used by intravenous injection into the fold of the elbow, or where the saphenous vein passes beneath the internal malleolus. Fifteen grains of the solution to be used daily.

Gallnut for Hæmorrhoids.—The *Medical Times* for November cites Dr. Roger S. Chew, of Calcutta (*Medical Age*, August 25th) as saying that he never performs an operation for hæmorrhoids now, as there is a very simple remedy—so simple, indeed, that the profession refused to accept it because it was unscientific. He also laughed at it at one time, but results brought the laugh against him. His tutor was an unlettered, untitled fakir, who dropped into his surgery one morning as he was asking a man with a huge bunch of extremely painful and bleeding hæmorrhoids whether he would submit to operation. "Sir," said the fakir, "pardon my interference. Will cutting away swelled veins alter the current of the blood permanently? That man is afraid of the knife. Let me whisper in your ear. Take a *chota harra* (the lesser gallnut); broil it as you would a coffee berry; then powder it, and mixing the powder with a little fresh butter, let the man apply it to the piles after each stool. If it fails to cure him, may Allah send me to perdition." Don't muddle this, says Dr. Chew, with the "unguentum gallæ" of the pharmacopœia. The author tried it. Eight applications cured the man, and to his surprise the first application stopped the bleeding entirely. Since then Dr. Chew has cured some hundreds of cases with the same thing.

For the Sweating of Tuberculosis.—*Riforma medica* for September 5th attributes the following to Siefert:

℞ Agaricine..................	7¼ grains;
Dover's powder............	113½ "
Powdered mallow, Mucilage, } of each..	60 "

M. Make one hundred pills. From one to two to be taken in the evening.

Incontinence of Urine in Elderly or Nervous Women.—The *Cincinnati Lancet-Clinic* for November 4th quotes the following from the *Medical Press and Circular:* When there is a frequent desire to pass water, or it runs away in the act of coughing, sneezing, or laughing, it is generally due to the want of power in the vesical sphincter. In such cases tincture of cantharides will be found of the greatest service if given in small doses of one minim in water three or four times daily.

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THE PROPOSED SOUTHERN NATIONAL PARK.

The Southern National Park Association has been organized in Asheville, North Carolina, at an inter-State convention of "all persons interested in forest preservation," for the purpose of promoting the establishment of a national park in the mountainous region of western North Carolina. The movement has the cooperation of the mayor, the board of aldermen, and the board of trade of Asheville. The board of trade's parks and forestry committee, of which Dr. C. P. Ambler is the secretary, and the forestry committee of the Buncombe County Medical Society, consisting of Dr. J. A. Burroughs, Dr. S. Westray Battle, Dr. J. A. Watson, and Dr. John Hey Williams, are also active in the matter. The association will endeavor to secure a congressional appropriation and the appointment of a commission to inquire into the desirability and feasibility of establishing the proposed park and game preserve.

It is pointed out that the few national parks we now possess are all in the North, and that strong arguments in favor of maintaining timber reserves in Minnesota and elsewhere will be presented at the next session of congress. Apparently the South thinks its turn ought to come now, and we must say we think it is justified in so thinking. As *Southern Pictures and Pencillings* puts it, "the country has given millions to the development of the great Yellowstone Park with its curious formations and freaks of Nature and its dreary grandeur, and the Eastern States have their breathing places in the mountains and by the sea which have been secured to the people either by the trend of events or by governmental intervention. These facts have been in the minds of the people of the South as well as those who have visited and considered the conditions weighing on the people of the South and of the Carolinas in particular, and for many years—nearing a quarter of a century in fact—there has been more or less talk of the magnificent opportunities and the great advantages to the country at large in the establishment of a national park in the Blue Ridge or Great Smoky Mountains or connecting ranges."

Forestry has been too long neglected in the United States, as sanitation was until a little more than thirty years ago. The two protective movements touch each other at more than one point, and we can not doubt that the dawning of general interest in the preservation of what remains of our fast dissolving forests will go far to help along the efforts of sanitarians. That being the case, we feel that we have only to mention the matter to secure for our Asheville friends considerable cooperation by the medical profession throughout the country. A form of petition to congress has been printed and circulated, and we do not doubt that it will be generally signed by physicians in all sections of the country.

THE MEDICAL SERVICE OF THE ARMY.

Surgeon-General Sternberg has favored us with a copy of his report to the secretary of war for the fiscal year ending June 30, 1899, dated October 12th. It is a voluminous document, and the limitations of our space will admit of our mentioning only a few of its features. Naturally, the most interesting part of the report, from the professional point of view, is the section devoted to the health of the army. It is based upon only a fair representation in the form of sick reports, as regards the volunteers, for some of the regimental surgeons in Cuba failed to furnish such reports for July and August, 1898. There is satisfactory evidence in this part of the report that the mortality for the year, whether from sickness or from injuries, was far smaller than was to be expected under the stress of the hasty improvisation of a volunteer force sufficient to undertake the task of wresting Cuba from Spain. In particular, the number of deaths from yellow fever fell decidedly below what had been expected. Typhoid fever proved to be the leading cause of mortality, but in no instance was its access to a camp or garrison shown to have taken place by way of the regular water supply.

The surgeon-general remarks that at the outbreak of the recent war the purity of water supplies for troops in the field was a subject to which much consideration was given. What was desired was a sterile water, a water free from all bacterial infection. Boiling was the readiest way by which a drinking water could be sterilized; but it was found difficult without special facilities to provide boiled water for a marching command, and, moreover, many soldiers have a distaste for boiled water on account of its flatness from loss of the gases held in solution in the fresh water. By a combination of an asbestos strainer and a filtering cylinder of compact infusorial earth, the surgeon-general had hoped to be able to provide a means, at once portable and efficient, for rendering an infected water harmless. This combination was sent to some of the commands for trial. They were brought into service at Camp Meade, Pennsylvania, not because the water there required this filtration, but with a view to familiarize the command with the method of using the filters. Some were used at Chickamauga Park, Georgia, and a few were seen by the inspectors in company kitchens at Montauk Point, Long Island. They answered their purpose very well when used intelligently and carefully handled. They were largely employed at those field hospitals which had to make use of surface waters, and occasional mention was made of them in reports from the temporary camps established on the occupancy of Cuba. At length a board of medical officers appointed for the purpose reviewed the various methods suggested, and tested the apparatus presented by manufacturers, and in its report described and approved of a rapid and economical method of sterilization by the Waterhouse-Forbes water sterilizer. The heat given out by the boiled water is utilized in heating the entering fresh water. The boiled and aerated water is delivered from the apparatus at a temperature only 4.5° F. above that of the entering water. It has been recommended that a number of these sterilizers be sent out for practical test by troops in the field. General Sternberg highly recommends the construction of regular sewers for camps, but he says that if such a system is considered objectionable on the score of expense or for any other reason, a trough arrangement for trap and disinfection purposes, with removal of the excreta by pneumatic pressure, may be resorted to, as has been done with satisfactory results at the Presidio and at Camp Meade.

Concerning the food supplies issued to the army during the war, in spite of all the sensational newspapers had to say about "embalmed beef," there were on file at the time in the surgeon-general's office only two papers referring to beef supplies. One of these was a statement concerning the poor quality of the native Hawaiian beef issued to the troops in Honolulu. The other was a report of a voyage made by the *Panama* with sick and convalescents from Ponce to Fort Monroe, in which the medical officer stated incidentally that the refrigerated beef which he had received from the subsistence department had proved of great value during the trip. The surgeon-general does not think it necessary to change the present army ration in order to meet the requirements of tropical climates, for the articles not used are credited to the men, and their money value can be employed for the purchase of articles found more desirable.

As to the men's clothing, the blue uniform of the regulars was universally condemned as too heavy for tropical campaigning, and the woolen undershirts as occasioning much irritation of the skin. So, too, canvas suits were found unpleasantly stiff and heavy until they had been washed several times, and the like complaint was made of khaki. It was the general experience that a light woolen undershirt was essential to prevent chilling of the body, also drawers of the same material, although some medical officers consider cotton to be preferable. A white duck uniform is recommended for garrison duty, and the khaki suit for field service. It was thought at first that the campaign hat was too heavy, and that the helmet used by the British troops in India was the best protection for the head in tropical countries, but longer experience, particularly after the rainy season set in, showed the American hat to have advantages not possessed by other forms of headgear. There were no complaints concerning socks or shoes, so they are assumed to have been entirely satisfactory.

The report closes with the following recommendations: "The medical corps of the army, which was scarcely adequate before the war with Spain for our army of twenty-five thousand men, is now entirely inadequate and should be increased as soon as is practicable. Physicians and surgeons from civil life, however well qualified professionally, as a rule are not prepared to assume the responsibilities of medical officers charged with administrative duties and the sanitary supervision of camps. The proper performance of such duties can not be expected from a physician without military training or experience, no matter how distinguished a position he may have held in civil life. Many of the commissioned medical officers of the volunteer army and of the acting assistant surgeons have made rapid progress in acquiring a knowledge of their military duties and have demonstrated their fitness for the military service. In filling vacancies in the medical corps these gentlemen should, in my opinion, have the preference when they come within the established age limit and are able to pass a satisfactory professional and physical examination. The value of the aphorism 'In time of peace prepare for war' has received additional support during our recent experience. This preparation should include a corps of trained medical officers larger than is absolutely necessary for the army on a peace basis, and systematic instruction in military medicine and hygiene for the medical officers of the national guard as well as for those of the regular army; also instruction of line officers in the elements of hygiene and especially in camp sanitation. It should also include the establishment of camping grounds in various parts of the country, having an ample supply of pure water, a proper system of sewers, etc. If our volunteers could have been assembled in such camps during the late war, a saving in lives and money would have resulted which would, without doubt, have demonstrated the economy of such preparation for war in time of peace."

In addition to his onerous official responsibilities, Surgeon-General Sternberg had a great deal to bear during the Spanish-American war in the way of abusive newspaper criticism. It is certain now, as we maintained at the time, that he managed the affairs of his bureau with intelligence, skill, and devotion to the public interests. Far from deserving rebuke, he has earned the gratitude of the nation.

SUDDEN DEATH AND THE ERECT POSTURE.

Probably most of us have been conscious at times of a feeling akin to faintness on suddenly assuming the upright posture after kneeling, stooping, or even sitting, and it is a matter of common belief that for a very sick person to assume that posture is to incur the risk of syncope, to say the least, and that this is especially true if the person has lost a considerable amount of blood. Quite in keeping with this idea is the general practice of laying a fainting person on the back, raising the foot of the bed in cases of post-partum hæmorrhage, and suspending the patient by the feet to avert threatening death by the overaction of an anæsthetic. It is assumed that in all these conditions anæmia of the brain is at the bottom of the trouble. The assumption is plausible, and, granted that it is correct, the treatment is logical. But the medical science of the present day is not satisfied with plausibility; it demands certainty. It must be admitted, therefore, that Dr. Paulesco, of the physiological laboratory of the Sorbonne, has made a notable contribution to our exact knowledge by his experimental researches into the mechanism of sudden death following on the assumption of the erect posture. The concluding portion of his account of those investigations takes up almost the whole of the October 15th number of the *Journal de médecine interne.*

We gather that Dr. Paulesco finds that the assumption of the upright posture is pretty sure to cause sudden death if any one of the three following conditions is present: A notable loss of blood, restriction of the arterial supply to the brain by ligation of the carotids and the vertebrals, and anæsthesia to the degree of abolition of the palpebral reflex. Essentially, all these three resolve themselves into one, anæmia of the brain, for it has been shown that profound anæsthesia is accompanied by cerebral anæmia. It is by the sudden increase of this anæmia that the brusque assumption of the erect posture is prone to give rise to speedy death. It is an interesting fact that, as Dr. Paulesco points out, the respiratory activity, which is the first to come to a definitive standstill, is under certain conditions temporarily intensified by the cerebral anæmia consequent on assuming the upright posture.

AN EARLY DIAGNOSTIC SIGN OF PREGNANCY.

We can not have too many signs to be guided by in the early diagnosis of pregnancy. One additional to those already in use seems to have been discovered by Dr. R. von Braun-Fernwald (*Wiener klinische Wochenschrift,* 1899, No. 10; *Fortschritte der Medicin,* October 11th). On palpation, the two horns of the uterus are found altered in size and consistence. One of them appears thicker and softer than the other. The softer portion extends beyond the median line, and at its border there is to be felt a longitudinal furrow dividing the body of the organ into two unequal portions. The thick and soft parts mark the site of implantation of the ovum.

DENGUE IN MANILA.

It is reported that the epidemic of dengue which has prevailed in the northern part of Luzon for a number of months past has traveled south to Manila, and that the disease has attacked many men of the garrison. It is gratifying to know, however, that Colonel Woodhull reports that the really severe cases have been few, and that in most instances the men attacked were simply unfitted for duty for some days.

NEW YORK'S MEDICAL ASSEMBLYMAN.

It will be good news to the physicians of New York that Dr. Nelson H. Henry has been reelected to the assembly. The medical profession ought always to be well represented in legislative bodies, and it would be all the better if their representatives were all such careful and conscientious men as Dr. Henry.

THE GASOLINE TANK OF THE POWER CARRIAGE.

The gasoline in the tank of a power carriage is reported to have exploded recently in Fifth Avenue, with the result of burning the owner severely about the face and hands. Some new danger is almost always to be expected in connection with novel devices of the kind, but, on the whole, the power carriage, whether propelled by gasoline or by electricity, is probably less dangerous than vehicles drawn by horses.

THE TARABAGAN PLAGUE OF MANCHURIA.

In the *Marine-Hospital Service Public Health Reports* for November 3d we find an account of the existence for the last ten years of a disease believed to be the Oriental plague in a part of Manchuria bordering on the Siberian frontier. A rodent called by the Mongolians the tarabagan (*Arctomis cobuc*), described as being of about the size of a large rabbit, is thought to be instrumental in spreading the disease. The animal's flesh is eaten, and its fat is used for greasing leather. The tarabagan is not so widely distributed as the rat, but it may be quite as dangerous in conveying the plague within its habitat.

THE SOCIETY FOR THE RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

THE New York Society for the Relief of Widows and Orphans of Medical Men, which was instituted in the year 1842, is continuing its good work. We learn from the fifty-eighth annual statement that the number of beneficiaries at the present time is twenty-four, that the society's funds amount to $234,981.86, and that its annual income is $10,301.59.

NEWSPAPERS AS AN INFECTIVE FOCUS FOR EPIDEMIC SUICIDE.

A LOCAL newspaper records the suicide of a fourteen-year-old girl in Washington because she was unable to learn Latin, though a bright and promising pupil in other studies. The method employed was the drinking of carbolic acid. On this it is remarked: "The occurrence has created considerable interest here, for carbolic-acid suicides, which are so common in New York, are almost unknown here. The newspapers gravely discuss the 'coming to Washington of the carbolic-acid epidemic from New York,' and print cartoons of the carbolic-acid monster." It does not seem to have occurred to these sapient newspapers which "print cartoons of the carbolic-acid monster" that they are as guilty of aiding and abetting the introduction of this "carbolic-acid epidemic" to Washington as are the newspapers here with regard to its prevalence in New York. The infection of "suggestion" is spread by newspaper reports of such occurrences. Suicidal mania *is* often epidemic; but the true policy toward all epidemics is isolation, not dissemination. Every newspaper that scatters broadcast the accounts of such acts is as guilty of endangering the welfare of the community as would be a person who deliberately sent a yellow-fever or plague patient to wander forth among the populace.

"CHRISTIAN SCIENCE" AND VACCINATION IN GEORGIA.

SMALL-POX having recently made its appearance in a Georgia community, the authorities ordered the general vaccination of the people, so the story goes, but a number of women professing "Christian Science" refused to submit to the operation, whereupon some of them pleaded guilty to disorderly conduct and were fined or imprisoned, but the imprisonment was in their own homes with a sentinel in front. Thus was the rigor of the law tempered by chivalry.

THE PLAGUE IN THE HARBOR.

THERE seems to be little room for doubt that the steamship *J. W. Taylor*, which reached the New York quarantine station from Santos, Brazil, last Saturday, really had two of her company affected with the bubonic plague, although as yet the bacteriological examinations have not shown the presence of living germs in the pus taken from their buboes. The newspapers had had reports of the presence of the disease in Santos, but, as we stated in our issue for October 28th, it was not noted in the Marine-Hospital Service Health Reports for the week ending October 20th. It appears now, however, that Surgeon-General Wyman had information that the disease was suspected to be present or to have been present in Santos, and that on the strength of that information he warned port officers to be particularly alert in examining vessels from that region. This warning has enabled the health officer of the port of New York to take such action as is well-nigh certain to prevent the disease from reaching the city. There is, therefore, no occasion for alarm.

THE FUNDAMENTAL PRINCIPLE OF SUGGESTION.

THERE are two kinds of ideas we are prone to accept and believe—first, those that we wish to believe, and, secondly, those which we have been prepared to believe by the previous impact of external impressions upon our subliminal consciousness. The last statement enunciates the fundamental principle of suggestion, which is well exemplified in the following words from a novel entitled *The Honorable Peter Stirling*. Therein (page 231) we read: "The successful orator is the man who imposes his frame of mind on the audience. We call it 'saying what the people want said.' But many of the greatest speakers first suggest an idea to their listeners, and when they say it in plain English, a moment later, the audience say mentally, 'That's just what we thought a moment ago,' and are convinced that the speaker is right."

THE HOSPITAL SHIP *MAINE*.

IT is learned that an entertainment recently given by Americans in London, organized by Mrs. James Brown Potter, was the means of adding $10,000 to the fund for fitting out the hospital ship *Maine*. Such manifestations of international good feeling, fortunately, are growing more and more common.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending November 18, 1899:

DISEASES.	Week ending Nov. 11.		Week ending Nov. 18.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	56	17	67	28
Scarlet fever	109	6	136	10
Cerebro-spinal meningitis	0	9	0	2
Measles	262	10	248	12
Diphtheria	248	37	274	46
Croup	11	4	15	9
Tuberculosis	172	148	125	151
Small-pox	1	0	0	0
Chicken-pox	15	0	19	0

The State Board of Charities and the Dispensaries.—It is announced that a committee appointed to draw up a set of rules for the government of dispensaries has reported a set providing that in every dispensary there shall be displayed a notice to the effect that the institution is for the benefit solely of persons unable to pay for medical attendance, and that clinical instruction may be given, but patients need not submit to examination, etc., for the mere purpose of such instruction.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending November 17, 1899:

Small-pox—United States.

Washington, D. C.	Sept. 28–Nov. 11	5 cases.	
Chicago, Ill.	Nov. 4–11		1 death.
New Orleans, La.	Nov. 4–11	1 case.	
Chelsea, Mass.	Nov. 4–11	2 cases,	1 “
New York, N. Y.	Nov. 4–11	1 case.	
Cleveland, Ohio	Nov. 4–11	6 cases.	
Pittsburgh, Pa.	Sept. 25–Nov. 4	1 case.	
Cambria County, Pa.	Sept. 25–Nov. 4	1 “	
Fulton County, Pa.	Sept. 25–Nov. 4	3 cases.	
Indiana County, Pa.	Sept. 25–Nov. 4	1 case.	
Jefferson County, Pa.	Sept. 25–Nov. 4	1 “	
Philadelphia, Pa.	Sept. 25–Nov. 4	8 cases.	
Westmoreland County, Pa.	Sept. 25–Nov. 4	6 “	
Portsmouth, Va.	Nov. 4–11	2 “	1 “

Small-pox—Foreign.

Antwerp, Belgium	Oct. 7–21	3 cases,	1 death.
Prague, Bohemia, Austria	Oct. 14–21	4 “	
Cairo, Egypt	Sept. 22–Oct. 14		2 deaths.
Athens, Greece	Oct. 14–21	5 “	2 “
Bombay, India	Oct. 3–10		3 “
Madras, India	Sept. 23–29		1 death.
City of Mexico, Mexico	Oct. 15–29	13 “	
Vera Cruz, Mexico	Nov. 2–9		1 “
Odessa, Russia	Oct. 14–21	1 case.	
St. Petersburg, Russia	Oct. 14–21	5 cases.	
Warsaw, Russia	Oct. 1–21	9 “	
Madrid, Spain	Oct. 7–14		5 deaths.
Straits Settlements, Singapore	Sept. 8–16		3 “
Erzeroum, Turkey	Oct. 7–14	1 case.	
Montevideo, Uruguay	Sept. 16–Oct. 7	2 cases.	

Yellow Fever—United States.

Key West, Fla.	Nov. 6–11	6 cases.	
Miami, Fla.	Nov. 6–14	24 “	2 deaths.
Port Tampa, Fla.	Sept. 4–Nov. 16	10 “	
New Orleans, La.	Nov. 6–10	1 case,	1 death.

Yellow Fever—Foreign.

Havana, Cuba	Oct. 22–28		5 deaths.
Santa Clara, Cuba	Oct. 27		1 death.
Tuxpan, Mexico	Oct. 23–Nov. 6		9 deaths.
Vera Cruz, Mexico	Oct. 28–Nov. 3	7 cases,	2 “

Cholera.

Kurrachee, India	Oct. 1–7	2 cases,	1 death.

Plague.

Hongkong, China	Sept. 8–30	36 cases,	38 deaths.
Bombay, India	Oct. 3–10		133 “
Calcutta, India	Sept. 23–30		50 “
Kurrachee, India	Oct. 1–7		7 “

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 11 to November 18, 1899:*

Darnall, Carl R., First Lieutenant and Assistant Surgeon, United States Army, will proceed to Governor's Island, New York, for temporary duty.

Fisher, Henry C., Major and Surgeon, United States Volunteers, will proceed by the transport *Logan* to Manila and report to the commanding general, Department of the Pacific, for assignment to duty.

Jordan, Arthur, Acting Assistant Surgeon, will proceed to Seattle, Washington, for duty on the transport *Garrone*, during the voyage of that vessel to the Philippine Islands.

Marrow, Charles, First Lieutenant and Assistant Surgeon, United States Army, will report for duty with troops on the transport *Leelanaw*, during the voyage of that vessel to the Philippine Islands.

Raymond, Henry I., Major and Brigade Surgeon, will proceed to San Francisco in charge of the sick enlisted men on the *City of Puebla*.

Stark, Alexander N., Captain and Assistant Surgeon, is granted leave of absence for one month to visit the United States, with permission to apply for an extension of one month.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Two Weeks ending November 18, 1899:*

Brodrick, R. G., Passed Assistant Surgeon. Placed on the retired list of officers of the navy from November 11, 1899, under section 1453, Revised Statutes, for incapacity incurred in the line of service.

Cleborne, C. J., Medical Director. Placed on the retired list of officers of the navy from November 10, 1899, under section 1453, Revised Statutes, for incapacity incurred in the line of service; with the rank and three fourths the sea pay of the next higher grade under section 11, navy *personnel* law.

Crandall, R. P., Passed Assistant Surgeon. Ordered to the *Constellation*.

Odell, H. E., Assistant Surgeon. Appointed from November 8, 1899.

Rosenbleuth, J. C., Passed Assistant Surgeon. The sick leave granted him is extended two months.

Taylor, J. S., Assistant Surgeon. Appointed from November 10, 1899.

Wilson, G. B., Passed Assistant Surgeon. Detached from the *Constellation* and ordered to the *Dixie*.

Young, L. L., Passed Assistant Surgeon. Placed on the retired list of officers of the navy from November 10, 1899, under section 1453, Revised Statutes, for incapacity incurred in the line of service.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending November 16, 1899:*

Irwin, Fairfax, Surgeon. Department letter of June 16, 1899, granting Surgeon Irwin leave of absence for three months amended so that said leave shall be for two months only.

Carter, H. R., Surgeon. To proceed to Port Tampa City, Florida, for special temporary duty.

Magruder, G. M., Surgeon. To rejoin station at Memphis, Tennessee.

Blue, Rupert, Passed Assistant Surgeon. Department letter of September 28, 1899, granting Passed Assistant Surgeon Blue leave of absence for one month and eight days amended so that said leave shall be for twenty-seven days only.

Clark, Taliaferro, Assistant Surgeon. Granted leave of absence for fifteen days.

Society Meetings for the Coming Week:

Monday, *November 27th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Society.

Tuesday, *November 28th:* New York Dermatological Society (private); Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, *November 29th:* Auburn, New York, City Medical Association; Medical Society of the County of Tompkins, New York (semiannual); Berkshire, Massachusetts, District Medical Society (Pittsfield).

FRIDAY, *December 1st:* Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, *December 2d:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Born.

HALLOCK.—In Fort McPherson, Georgia, on Tuesday, November 14th, to Dr. and Mrs. Harry M. Hallock, a son.

Married.

BYER—CRAWFORD.—In Brooklyn, on Wednesday, November 15th, Dr. John Murray Byer and Miss Sadie Pearson Crawford.

BEYEA—BROCKIE.—In New Brighton, Staten Island, New York, on Tuesday, November 14th, Dr. Samuel W. Beyea, of New Rochelle, New York, and Miss Alison Brockie.

EVANS—LEVERING.—In Baltimore, on Tuesday, November 14th, Dr. Philip Saffrey Evans, Jr., and Miss Mary Grace Levering.

HALSEY — PACKARD.—In Brooklyn, on Thursday, November 16th, Dr. John Taylor Halsey and Miss Mildred Wheatley Packard.

KRISTELLER—VAUGHAN.—In Brooklyn, on Wednesday, October 25th, Mr. Robert S. Kristeller and Miss Mabel Adelaide Vaughan, daughter of Dr. G. Aubrey Vaughan.

LEWIS—FOWLER.—In Brooklyn, on Wednesday, November 15th, Dr. Frank Newell Lewis and Miss Mary Aymar Fowler.

OWENS—MILES.—In Marion, South Carolina, on Thursday, November 16th, Mr. Lamar Owens and Miss Lillian Miles, daughter of Dr. D. F. Miles.

PAYNE—TUTHILL.—In Mattituck, Long Island, on Wednesday, November 15th, Dr. Albert E. Payne and Miss Flora E. Tuthill.

SPOONER—SOLEY.—In Boston, on Thursday, November 9th, Dr. Henry Garrettson Spooner and Miss Katherine Codman Soley.

TAYLOR — CUTHBERT. — In Radcliffeboro, South Carolina, on Tuesday, November 7th, Dr. Joseph T. Taylor and Miss Annie W. Cuthbert.

WATERS — WILSON.—In Baltimore, on Thursday, November 16th, Mr. Henry J. Waters and Miss Emily Brewer Wilson, daughter of the late Dr. Henry Parke Custis Wilson.

WILKINSON — FAULKNER.—In South Greenfield, Coney Island, on Wednesday, October 25th, Dr. Richard Powell Wilkinson, of Philadelphia, and Miss Mary E. Faulkner.

Died.

BALTZELL.—In Baltimore, on Wednesday, November 15th, Mrs. Elizabeth Farnum Baltzell, wife of Dr. William Hewson Baltzell, of Frederick, Maryland.

BUCHANAN.—In Meridian, Mississippi, on Wednesday, November 8th, Mrs. Sallie May Buchanan, wife of Dr. J. M. Buchanan.

MAURAN.—In Creston, Iowa, on Wednesday, November 1st, Dr. Antoine Joseph Mauran, in the sixty-ninth year of his age.

MORRISON.—In Baltimore, on Monday, November 13th, Dr. James M. Morrison, in the sixty-second year of his age.

PRENTISS.—In Washington, on Sunday, November 19th, Dr. D. Webster Prentiss, in the fifty-sixth year of his age.

ROBINSON.—In Hot Springs, Arkansas, on Thursday, November 9th, Dr. Samuel Quincy Robinson, United States Army.

ROSENBAUM.—In New York, on Monday, November 13th, Mr. Jacob H. Rosenbaum, father of Dr. Solomon N. Rosenbaum.

SEARLE.—In New York, on Wednesday, November 15th, Dr. Dayton Wyckoff Searle, in the sixty-second year of his age.

SMITH.—In Jersey City, on Sunday, November 19th, Dr. Matthew J. Smith, in the fortieth year of his age.

Letters to the Editor.

THE ÆTIOLOGY OF BERIBERI.

NEW YORK, *November 10, 1899.*

To the Editor of the New York Medical Journal:

SIR: In spite of Osler's opinion as to the epidemic and endemic character of beriberi, it certainly is not epidemic in Japan, nor is it even endemic (excepting in the rainy season—June, July, and August), Wernich and Baelz to the contrary notwithstanding. The rice-and-anæmia ætiology is a very old one, but has nothing else in its favor. The mountaineers of Japan, who are, as everybody knows, proverbial gluttons as regards rice—eating, in fact, nothing else—are free from beriberi; of course, if they descend into the depressed centres, where the permanent presence of poisonous gases gives the disease the appearance of periodical endemicity, they share the common lot. Let me observe that this medium does not produce the disease at once, and that its influence becomes manifest only after several months. There is to the freedom of mountaineers from kakke only one exception that I know of, and that exception proves the rule. Shinano is situated eight hundred metres above sea level, and there kakke occurs; but this same Shinano is surrounded again by higher hills, so that it is really a cup from which the gases can not escape. There is rarely or never a diastolic murmur in beriberi because the heart fills insufficiently. A prolonged first sound is usual. The swollen abdomen is also usual, and it is that which has led some observers to assume a polysarcous form of the disease; but, on puncturing the wall, the swelling soon disappears. We must consider that the respiration of the beriberi patient is necessarily abdominal. The rotund abdomen is sometimes due to circumscribed œdema, but such cases are fatal. Quick recovery in all cases, as soon as the patients are removed from the poisoned quarters on ships, is the same effect which the Japanese obtain by removing the sick to higher grounds. Ascites is common in beriberi. Suppression of urine occurs, but never albuminuria. There is no fever; there is cyanosis of the skin, increasing in intensity after death, which is always by suffocation. Worm-eaten rice could not produce beriberi; otherwise all the negroes of the Savannah delta, upon whom the damaged rice is usually bestowed, would be a permanent prey to beriberi. Beriberi is not contagious. "Dr. Takaki's" Japanese theory that rice produces kakke (borrowed by Japan, without credit, from the Tsin dynasty of China, 279 A. D.), although he was made a nobleman for excogitating it, does not hold water. All that rice is alleged by Japan to have to do with kakke is that it represents insufficiency of alimentation; but insufficiency of alimentation can not be the cause of beriberi, because there is no deficiency of red corpuscles in beriberi blood. And in Japan strong men are more liable to be stricken than weak men.

ALBERT S. ASHMEAD, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XLVI.

PRIVILEGED COMMUNICATIONS.

(*Continued from page 755.*)

Relation of Physician and Patient must Exist to Create Privilege.—Having learned that the physician to whom the confidential communications were made was duly licensed and authorized to practise medicine and surgery, it next becomes pertinent to determine whether or not the relations existing between the patient and the physician to whom the communications were made were of such a character as to bring such communications within the protection of the law.

The general proposition that because one is a licensed physician and surgeon he is incompetent to testify regarding the condition in which he found a certain person without that person's consent is too absurd to require refutation; this privilege must be based upon a relation of confidence similar to that of physician and patient, and unless such relation, in fact, exists at the time the information is obtained there is no privilege;[*] nor will the court presume the existence of such confidential relations. The party invoking the aid of the law must show that the relations which existed between the physician and himself were of the confidential nature contemplated by the statute.[†]

In order to constitute the confidential relation of physician and patient it is not essential that the physician should have been called or employed by the patient himself; the legal effect is quite the same whether the physician is summoned by the patient himself, by the patient's attending physician, by friends of the patient, or even by strangers.[*] It therefore logically follows that where the defendant in a suit for personal injuries sends his physician to the plaintiff to make an examination for the purpose of testifying as to the plaintiff's condition, and the physician, instead of simply making the examination for the purpose intended, undertakes the treatment of the plaintiff, the relation of physician and patient immediately arises, and the physician becomes incapable of disclosing the information obtained.[†] In the case of Freel *vs.* Market Street Cable Railway Company,[‡] the plaintiff testified that defendant's physician called upon her several times and prescribed for her. The doctor, when questioned upon the subject, failed to remember whether he did or did not prescribe for her. Thereupon the plaintiff's counsel asked him the following question: "It was during this time that you were making these visits *and prescribing for her* that you obtained any knowledge that you have of her case?" to which the physician answered, "Yes, sir; that is all, except conversations with Dr. ——." The court was of the opinion that even though the physician was sent for the sole and exclusive purpose of examining the plaintiff to enable him to disclose her condition, yet by "visiting and prescribing for her" the confidential relation of physician and patient was created, which would preclude the disclosure of any information gained while making such visits. And so in the case of People *vs.* Murphy,[#] where the public prosecutor selected a physician and sent him to examine a woman upon whom an abortion had been performed, for the apparent purpose of obtaining evidence, and the physician treated the patient professionally, he was not permitted to give any information obtained while so treating her.

Where, however, a physician calls upon a person and examines him only for the purpose of information, and it is understood that the purpose of the call and examination is not for professional treatment, no question of privilege can be successfully urged.[‖] Therefore, where a physician, at the request of the prosecuting attorney, entered the cell of a prisoner and had a talk with him for the purpose of determining his mental condition, but rendered to him no medical assistance or advice, the physician's observations were properly admitted in evidence.[△] And so, when a physician, at the request of the prosecuting attorney, examined a prisoner while in jail for the purpose only of determining whether or not he was afflicted with a venereal disease, the court held that no confidential relation existed, and that the information gained might properly be disclosed.[◊] And for a like reason it is held, where two physicians, not attending upon the testatrix professionally, are taken to her bedside for the purpose of determining her mental condition, and while there witness the execution of her will, that no professional relation is thereby created between the testatrix and witnesses, and that they are competent to disclose what they learned at the examination. One of the physicians, in answer to questions propounded to him at the trial, said

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[*] Jacobs *vs.* Cross, 19 Minn., 523.

[†] People *vs.* Schuyler, 106 N. Y., 298, 12 N. E. Rep., 783; Edington *vs.* Insurance Co., 77 N. Y., 564; Stowell *vs.* Am., etc., Assn., 5 N. Y., Supp., 233.

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[*] Renihan *vs.* Dennin, 103 N. Y., 573.

[†] Weitz *vs.* Mound City Ry. Co., 53 Mo. App., 39.

[‡] Freel *vs.* Market St. Ry. Co., 97 Cal., 40.

[#] People *vs.* Murphy, 101 N. Y., 126.

[‖] Nesbit *vs.* People, 19 Colo., 441, 36 Pac. Rep., 221.

[△] People *vs.* Kemmler, 119 N. Y., 580; People *vs.* Sliney, 137 N. Y., 570, 21 N. Y. Supp., 931.

[◊] People *vs.* Glover, 71 Mich., 303.

that he was not testatrix's physician or surgeon at the time, and didn't prescribe for her; was not called, as he understood it, to prescribe for her; that he was not her family physician; that he made a charge for making the examination upon his books to the attorney who prepared the will and was present at the examination; that he made the examination the same as he always did when called upon to examine a person with regard to sanity, and after the examination the will was at once executed. The other physician's statement of the purpose of his visit was in legal effect much the same. In considering the admissibility of the evidence of these physicians the court said: "In the present case the physicians were not called to prescribe for the deceased or to advise as to professional treatment; nor did they so prescribe or advise. If the deceased at the time of their visit had been in great need of good medical advice, and they had given no advice, they would not have been chargeable with malice or neglect of duty; because they were not under any obligation to advise or to prescribe. Any advice or prescription would have been an improper act, because they were not the attending or consulting physicians, and they were under no obligation to her. If they had conversed with her as to her health, then, possibly, she might have conceived the idea that they were consulting physicians. And if, in such mistaken belief, she had stated anything as to her health, very possibly that might have come within the prohibition of this section. But . . . there is no reason to believe that she thought them to be consulting physicians, or recognized them to be anything more than proper witnesses to her will." [*]

The proper test, it seems, to apply in determining the competency of the physician to testify, is whether he met the party professionally or non-professionally at the time the information in question was obtained.[†] Thus, when a physician offered to give evidence as to the mental capacity of the deceased, and this evidence was objected to upon the ground that he had been the attending physician of the deceased, the court, upon being shown that the knowledge regarding which the physician proposed to testify was not obtained while acting in that capacity, properly permitted the physician to testify.[‡] And upon the same principle a physician who had attended the deceased was permitted to state what he had observed relative to deceased when he called upon him for the purpose of collecting some money which was due for professional services. The physician was also permitted to testify that he met deceased in the road near his home, and that the old gentleman did not know him, and asked who he was.[#] The physician must, however, be able to separate the knowledge which he acquired from the patient while attending him in a professional capacity from that which he obtained upon meeting him in a non-professional way, otherwise he will not be permitted to testify as to the latter.[‖]

In the case of the Colorado Fuel and Iron Company *vs.* Cummings,[△] the defendant, the Colorado Fuel and Iron Company, together with a certain railroad company, had established a hospital for the use of the two companies, which was supported by contributions from the employees, certain amounts being deducted from their monthly wages for that purpose, the general contribution being termed the "hospital fund." The plaintiff, who had been injured while in the course of his employment with the defendant, was taken to this hospital and attended by a physician who was employed by the company and received his salary from it, probably from the "hospital fund." This physician offered to testify regarding the plaintiff's condition, but his evidence was refused. The court, in considering the question of whether or not the relation of physician and patient existed between the plaintiff and witness, said: "We are, however, entirely satisfied that the circumstances under which the doctor was employed and the relation existing between the company and its employees and the doctor were such as to put the physician and the plaintiff directly in the relation of doctor and patient. The plaintiff's contributions may have been slight, but the circumstances of the situation were such as to lead him to put himself implicitly under the care of the surgeon and to trust himself in his hands for care to the same extent and under the same circumstances as though he had sent out for another physician and put himself directly in his charge."

From this case an inference seems deducible that the confidential relation of physician and patient can not exist when the physician is wholly paid by a third party. However justly such an inference may be drawn from the opinion of the learned court in this case, it is apprehended that such a statement would not be correct law. The law is probably better illustrated in the case of Grossman *vs.* Supreme Lodge of Knights and Ladies of Honor.[*] In this case the patient was at a hospital and her regular attending physician was a Dr. W. A Dr. N. was called as a witness to testify to the patient's condition, but his evidence was objected to upon the ground that the knowledge he possessed was privileged. In order to determine the relation existing between the patient and Dr. N., he was permitted to state his connection with the hospital and the circumstances under which he met the plaintiff. He stated that he and Dr. W. had charge of different wards in the hospital and that he and Dr. W. made the rounds of the hospital together, and generally examined the cases together; that he was not the physician attending the patient, although he partly attended her. Referring to the patient, he said: "I went with Dr. W., who was the attending physician. We generally tried to confirm diagnosis. I went there to find out the condition of the patient, and the ailments." And again he said: "I went there just out of curiosity to acquire information in interesting cases." And later in his examination he said that when Dr. W. went to examine the patient he went with him "and assisted him in making the examination." Regarding the admissibility of Dr. N.'s evidence of the condition of the patient, the learned court said: "We think the court properly held that the witness was disqualified. 'To bring the case within the statute it is sufficient that the person attended as a physician upon the patient, and obtained his information in that capacity.' [†] Whether the witness was actuated by curiosity or a higher motive makes no difference. His own admission that he attended the patient, although he qualifies the statement by the use of the adverb 'partly,' suffices to establish the existence of the professional relation which debars him from disclosing what he learned of her condition under the circumstances."

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[*] *In re* Freeman, 46 Hun, 458.

[†] Fisher *et al. vs.* Fisher *et al*, 129 N. Y., 654.

[‡] *In re* Will of Peck, 42 N. Y. S. R., 898, 17 N. Y. Supp., 248.

[#] Bower *vs.* Bower, 142 Ind., 194, 41 N. E. Rep., 523.

[‖] *In re* Darrah, 52 Hun, 591.

[△] Colorado Fuel and Iron Co. *vs.* Cummings, 8 Colo. App., 541, 46 Pac. Rep., 875.

[*] Grossman *vs.* Supreme Lodge of Knights and Ladies of Honor, 6 N. Y. Supp., 821.

[†] From Renihan *vs.* Dennin, 103 N. Y., 573.

A jail physician, it seems, is also incompetent to testify as to the condition of a prisoner whom he has attended in a professional capacity; but unless it can be shown that the information he offers to disclose was obtained while attending such prisoner professionally he will not be prevented from testifying.[*]

Whether or not the professional relation of physician and patient exists to such a degree as to protect the communications made to the physician where a third party comes to him and makes disclosures for the purpose of getting medicine or a prescription for the patient is a question that is largely dependent upon the circumstances of the particular case. In an early New York case [†] the defendant repeatedly applied to a physician for drugs to produce an abortion, and upon one occasion told him the name of the female for whose use the drugs were desired. The physician was permitted to disclose the subject of these interviews, the court expressing its opinion as follows: "The witness (the physician) I think was not privileged. It is very doubtful whether the communications made to him by the defendant can be considered as consulting him professionally within the meaning of the statute." And so, in the case of Babcock *vs.* People, [‡] a physician was permitted to testify that defendant came to him and told him that he wanted some medicine for a certain young lady who had taken a cold and was suffering from suppressed menses, and that subsequently, in about a month, the defendant returned the medicine and said it was for his wife and was not given because she was pregnant. The court said: "The defendant was not consulting him (the physician) for himself, nor does it appear that he was representing any one else who needed or desired medical assistance." If, however, a third party appears before a physician and confidentially discloses to him the condition of a patient and procures the physician to undertake the treatment of such patient, the relation of physician and patient exists in its full sense, and the information conveyed through the third party is as adequately protected as though communicated by the patient direct.[#]

It has been observed that the confidential relation of physician and patient is not dependent upon the employment by the patient, but that such a physician may be called by another. Similar to this is the rule that a physician who is called by the attending physician as consultant is within the law and not permitted to disclose knowledge gained in the course of such consultation.[||] The partner of the attending physician also comes within the rule and is not permitted to disclose knowledge imparted to him by the attending physician.[△]

Justice Berkshire, in considering a question of the sort, said: "Dr. L. (the partner) comes clearly within the spirit, if not the letter, of the statute. He was the partner of Dr. W. (the attending physician). They were in active practice, occupying the same office. The business of the one was the business of the other; when necessary, it was the duty of one to consult with the other, and in the absence of the one who was giving special attention to a patient, it was proper for the other, if not obligatory on him, to take his place." In this case the court, after stating that the information possessed by Dr. L. was obtained while the patient was at the firm's office to consult Dr. W., expressed itself positively that to have permitted Dr. L. to disclose this information "would have been a perversion" of the statute.[*] It seems, however, that a physician merely having office privileges with the attending physician, but not interested in his business, does not come within the law and will be permitted to disclose information imparted to him by the other's patients.[†]

Nor does the relation of physician and patient exist as contemplated by the law when the physician performs an autopsy, as a dead man can not be considered a "patient," "but is a mere piece of senseless clay which has passed beyond the reach of human prescription, medical or otherwise." Therefore information disclosed at such autopsy is not privileged.[‡]

The statutes, in designating to what relations the privilege shall extend, more frequently use the expression that no person authorized to practise "physic or surgery" shall be permitted to testify, etc. Such a designation as this is restricted to a physician or surgeon and is not construed to include a dentist; for while the duties of a dentist include to a very limited extent those of a surgeon, yet it has been held that a dentist is not, in law, to be considered a surgeon;[#] therefore communications made to him will not be privileged.[||]

(To be continued.)

Pith of Current Literature.

The Therapeutics of Kola.—Dr. Charles C. Yarbrough (*Journal of the American Medical Association*, November 4th), in a paper presented to the Columbus meeting, says that among the new therapeutic applications of kola, where its success has been particularly noteworthy, is its exhibition in the treatment of that obstinate disease of childhood—pertussis. Blocker reports that he has used it in a large number of cases with surprisingly good results—the attack being cut short and the child's condition rapidly improved. Its influence has been so grateful in a large number of cases that further trial along this line to establish its true value is called for.

In asthma, kola has proved itself to be peculiarly beneficial, relieving many cases, some permanently, where other medicinal agents have failed to give good results.

On the hypothesis that asthma is a true neurosis of the respiratory apparatus, it seems obvious that kola should be of material service in that affection. It must be admitted that there are a variety of causes that will produce an asthmatic condition, but the manifestations of the disease are always nervous in character. Kola has been employed with signal success in some very obstinate cases of asthma, and this fact entitles it to be considered in formulating a treatment for this dyscrasia. At best, asthma is very unsatisfactory to treat, and any drug promising to give prolonged relief to the distress of an asthmatic patient should have a careful trial. There are some forms of asthma where kola, or for that matter any other medicinal treatment, will be useless; for example, those cases due to pressure by a tumor on the pneumogastric nerve. Because kola acts well in a number of cases of asthma, it must not be taken for granted that it is a specific for that disease, and, if it fails in some instances, it does not follow that it is valueless in all. This is an axiom that should be applied to all drugs in their respective therapeutic applications.

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[*] People *vs.* Schuyler, 106 N. Y., 298, 12 N. E. Rep., 783.

[†] Hewitt *vs.* Prime, 21 Wend., 1.

[‡] Babcock *vs.* People, 15 Hun, 347.

[#] People *vs.* Brower, 53 Hun, 217.

[||] Renihan *vs.* Dennin, 103 N. Y., 573.

[△] The Ætna Life Insurance Co. *vs.* Deming, 123 Ind., 384.

[*] The Ætna Life Insurance Co. *vs.* Deming, 123 Ind., 384, 24 N. E. Rep., 86.

[†] Kendall *vs.* Grey, 2 Hilt., 300.

[‡] Harrison *vs.* Sutter Street Ry. Co., 116 Cal., 156, 47 Pac. Rep., 1019.

[#] State *vs.* Fisher, 24 S. W. Rep., 167, 22 L. R. A., 799.

[||] People *vs.* De France, 104 Mich., 563, 62 N. W. Rep., 709.

Kola is a decided diuretic. It acts more energetically on some people than it does on others. In the author's experience it has proved to be very prompt and satisfactory as a diuretic, even more so than caffeine and digitalis combined. There are indications that strongly suggest some peculiar direct action on the kidney, although its action is largely indirect, by increasing the blood pressure. Being a reliable diuretic, it is highly serviceable in Bright's disease, cardiac and renal dropsies, rheumatic and rheumatoid conditions, and in all cases where a stimulus to diuresis is indicated, and particularly in those cases characterized by atonic conditions.

As a cardiac tonic, it ranks well with digitalis, and, like the latter, causes an increase of urine. Kola, unlike digitalis, has not a cumulative action; hence it is a good substitute for digitalis and may be used wherever the latter is indicated, or the two may be advantageously combined. Kola is, then, of service in cardiac diseases, in cases of shock with collapse, delirium tremens, etc.

Melancholia is another morbid manifestation in which kola gives admirable results. There have been cases, apparently irremediable, that have been entirely cured by the timely use of kola. The value of kola in this disease is gradually becoming more widely and better known, and, as a result, it is now used in nearly if not all of the leading institutions for the treatment of mental diseases.

In alcoholism and morphinism, two deplorable conditions, the effects of kola as a stimulant and supporter are of great service in sustaining the system against shock from gradually reducing or interdicting entirely the use of alcohol or morphine, respectively. It is true that the cure of these habits depends largely on moral suasion and a determination on the part of the victim to rid himself of his vice, but a stimulant whose effects will replace those of the irresistible habit drug without itself producing a depressed and vitiated condition of the system, is of immense value in tiding the individual through the ordeal of breaking away from the influences to which his system is so accustomed.

Kola is of value in combating and preventing surgical shock. Administered before and after a surgical operation, its power of conserving strength and exerting a tonic influence on the nervous system will certainly render the patient less liable to collapse. It has been used by some of our leading surgeons for this purpose and invariably with success.

Uterine inertia, when due to nervous exhaustion or occurring in weakly, debilitated women, has been found to be amenable to the action of kola. Kola is also useful in normal parturition to sustain the strength of the patient and stimulate the uterus to its best action.

The Treatment of Post-partum Hæmorrhage.—Dr. J. Z. Currie (*Boston Medical and Surgical Journal*, November 16th) thus summarizes a paper read by him before the Cambridge Society for Medical Improvement and the Boston Gynæcological Society: 1. A knowledge of the source of the hæmorrhage is necessary to insure intelligent action. 2. All rents, when easy of access, should be repaired at once. 3. If the body of the uterus is contracted and bleeding excessive, and in all cases of hæmorrhage following placenta prævia, the whole cavity should be tamponed at once. 4. If this is not successful, or if the hæmorrhage is constant and not excessive, secure the bleeding vessels and, if possible, repair the injury. 5. If atony exists and hæmorrhage is not excessive, use external and bimanual compression of the uterus, followed, if necessary, by hot water, vinegar, or acetic acid. 6. If not successful, or if atony exists with excessive hæmorrhage from the outset, tampon at once after using hot water. 7. Give morphine hypodermically to check the hæmorrhage, and stimulants, strychnine and auto-infusion, to overcome the effects of the hæmorrhage. 8. To prevent anæmia, use saline solution, preferably per rectum or hypodermically. Saline solution may be used by infusion also, if necessary.

The Penetration of Bacteria into Eggs.—Bucco (*Riforma medica*, October 3d, 4th, 5th, and 6th; *British Medical Journal*, October 28th), as the result of a series of experiments on this point, finds that many pathogenic bacteria, for example, *Staphylococcus pyogenes*, Loeffler's bacillus, etc., penetrate within the egg boiled at 100° C., and are arrested at the albumen, but in some cases (*Proteus vulgaris, Bacillus indicus, Bacillus diphtheriæ*) reach as far as the yolk. Eggs cooked at 134° C. resist much longer. It is also found that many bacteria are able to penetrate the raw egg. The *Bacillus subtilis* is unable to enter either the raw or cooked egg. The *Bacillus diphtheriæ*, although able to enter the egg cooked at 100° C., can not penetrate the raw egg. The typhoid bacillus is able to enter the egg in twelve hours, and keeps its vitality for four or five days. Seeing the kind of material and the places in which eggs are stored, these researches showing that eggs offer no insuperable barrier to the entrance of microbes have some importance from the sanitary point of view, and form an additional argument for greater cleanliness in the storage of these valuable articles of diet.

The Therapeutics of Theobromine.—M. Lemoyne de Vemon (*Gazette hebdomadaire de médecine et de chirurgie*, October 1st), in his thesis regards theobromine as a trustworthy and powerful diuretic, acting directly upon the kidneys, imposing no effort upon the heart, but rather relieving that organ by causing a rapid diminution of œdema. Theobromine also causes the disappearance of toxic dyspnœa and calms præcordial distress. In valvular diseases, digitalis has its contraindications and causes of failure, the principal of which is myocarditis. Though *par excellence* the medicament in asystolia it may fail from the very first. Then theobromine should be substituted for it. This drug occasions no evil effects in cardiac patients. When to any cardiac lesion is added renal trouble, and particularly cardio-renal sclerosis, the general effects of digitalis, and especially its diuretic properties, become unreliable, and are nearly always insufficient. Theobromine should in such cases be substituted, for it insures diuresis, without detriment to the kidney, and supports the heart by disencumbering the peripheral circulation. Nevertheless, if digitalis is powerless against œdema it can aid occasionally in regulating the heart, and it should be given in a moderate dose when signs of failing are present. In the course of renal insufficiency to combat uræmia, imminent or actual, more certain success is likely to be attained if to the local or general depletion to disembarrass the kidney is added the employment of theobromine to awaken the functional activity of the renal epithelium.

Peculiar Result of Attempted Self-induced Abortion.—The *Indian Medical Record* for October 4th, citing the *Canada Lancet* of unnamed date, says that in the Surgical Section of the Ontario (Canada) Medical Association, Dr. Harrison, of Selkirk, reported the case of a woman with a large family, who, being again pregnant two months and a half, was advised by a neighbor to produce an abortion, saying that it was a very easy thing to do and no trouble arose other than from an ordinary monthly sickness. A glass stylet penholder was passed blunt end foremost, but slipped from the woman's grasp and was lost to her touch. On examination, Dr. Harrison could find no rent or tear of any kind either in the vaginal walls or in the walls of the uterus. Even after putting the woman under chloroform the stylet could not be found. The woman was most positive that it was there, and that it had been passed blunt end foremost. An exploratory abdominal operation was performed, and the stylet was found in the region of the spleen with the point almost impinging upon the diaphragm where the heart lies on that muscle. The woman recovered with nothing worse than a stitch abscess.

The Relation of Heart Disease to Pregnancy.—Dr. Adam H. Wright (*American Medical Quarterly*, September) summarizes his paper on this subject as follows: 1. A woman having a heart lesion which is compensated should not be prevented from marrying. 2. Abortion should not be induced on a woman with heart disease unless very serious symptoms are present. 3. Premature labor should seldom or never be induced on account of heart disease. 4. Mitral stenosis is the most serious heart lesion during pregnancy and labor; aortic stenosis comes next; then, probably, aortic incompetency. Mitral insufficiency is the least serious lesion. 5. Treatment during pregnancy. Administer the following according to indications: Strychnine, digitalis (or strophanthus), cathartics, nitrite of amyl, nitroglycerin, and regulate the diet. 6. Treatment during labor. Keep up the action of digitalis (or strophanthus), especially during first stage. Give strychnine and stimulants if required, and chloroform. As soon as the first stage is completed deliver with the forceps. 7. Watch the patient carefully during the third stage (the most dangerous time) and for some days after.

A Crowbar Traversing the Vertical Diameter of the Abdominal Cavity, with Survival for Three Weeks.—Dr. A. C. Miller (*Edinburgh Medical Journal*, October) records this case and says that the manner in which this accident occurred was very peculiar. The patient, a strong young Irishman aged twenty years, had been engaged "dressing" a railway embankment, in course of construction. Standing on the outside ledge, he was performing the duty by means of a long, pointed crowbar, when, suddenly, the instrument missed its billet, and the poor fellow lost his balance. Letting go his hold of the iron, the latter, turning heel downward in its course, first reached the bottom of the declivity, stuck fast in the ground, and presented its pointed extremity to the navvy as he tumbled after. The point entered the right thigh in front and emerged below the right shoulder posteriorly. A companion who witnessed the occurrence rushed to the patient's assistance and with some difficulty succeeded in withdrawing the crowbar: The patient was then conveyed to hospital, partly by locomotive engine and partly by trap, for a distance of eighteen miles. On admission he was found to be very collapsed; pulse weak and rapid, face cyanosed, extremities cold. Stimulants were administered in hot milk. Hot bottles were applied, morphine was injected hypodermically, and soon the patient recovered to the extent of permitting a detailed examination to be made. The point of the crowbar had entered about four inches below the line of junction of the thigh to the pubis. The course was through the subcutaneous tissue of the limb, underneath Poupart's ligament, and through the abdominal cavity. The wound of exit was situated about an inch and a half below the angle of the right scapula. There was not much bleeding from the wound of entrance. The femur was uninjured, and the patient could flex and extend the thigh without difficulty. The femoral artery could be detected feebly pulsating to the outside of a swelling underneath Poupart's ligament. This swelling gurgled distinctly on pressure. The tenth and eleventh ribs were found to be fractured and comminuted, and a splinter from the tenth had been thrust upward so as to penetrate the pleural cavity. There was considerable oozing from the thoracic wound. The tissues around were emphysematous, and air passed freely in and out of the aperture. The wound was valvular; that is to say, the opening in the skin was at a higher level than the injured ribs, but on drawing the skin and subcutaneous tissue downward, the fractured bones could be easily seen by electric-lamp light. The splinter that caused the pleural wound was caught by forceps and removed. For an hour or two after admission there was considerable disturbance in the respiration, and aeration of the blood seemed to be carried on with difficulty. The pulse was extremely weak and irregular, and the face was deeply cyanosed. By and by, however, the respiration and circulation became quiet and regular. The patient slept at intervals, and in the evening stated that he felt no discomfort whatever. The temperature was 102.2° F. Eighteen ounces of clear, healthy urine were drawn off; one fourth of a grain of morphine was administered hypodermically every four hours. Toward morning on the following day (25th) vomiting set in. The patient said he was relieved by the emesis. The vomited matter consisted of bile-stained fluid, tinged also, slightly, with blood, and it was sour-smelling. The temperature fell to 99° F.; the pulse to 100. Flatus passed freely. The wounds looked healthy, and, after being thoroughly irrigated, were stuffed with iodoform gauze.

For several days the patient remained in much the same condition, vomiting being almost incessant, relieved occasionally by ice and sometimes by the application of a sinapism to the epigastrium. Morphine was given less frequently. The urine for the most part passed voluntarily and in normal amount. Rectal enemata gave no result. Then tympanitic distention of the abdomen began to set in.

On the 31st of December the patient's condition became very critical. He passed a very restless night, being much disturbed with vomiting, which was of a very offensive character, and resembled chopped parsley in appearance. Temperature subnormal and extremities cold. Pulse small, slow, and compressible. Thoracic wound healthy. Wound in thigh dry and gangrenous. For twenty-four hours the amount of liquid ingested was seventy-two ounces. During the same period twenty-eight ounces of fluid were vomited, and thirty-five ounces of urine passed. The bowels moved on this day for the first time since the accident—an interval of seven days. The abdominal distention became less, and the vomiting not so constant. In the general condition, too, improvement followed. The facies became less anxious, the pulse quieter and more regular and full, and the temperature stood at normal; but later, again, the bowels became very troublesome. The stools were pea-soupy in character, occasionally interspersed with air bubbles. Bismuth, chalk, opium, and acetate of lead were given in various combinations to counteract the diarrhœa, but with only intermittent success. The vomiting for a time disappeared after the occurrence of the diarrhœa. The pulse became small, rapid, irregular, and feeble. Temperature pursued a fairly normal course. The patient's features became more and more anxious, emaciation progressed, and the abdominal distention increased. The thoracic wound discharged a large quantity of pus, and daily irrigation with carbolic solution was carried out. A drainage tube was inserted. The femoral wound became healthy and tended to granulate.

On January 5th the patient began to expectorate a peculiar slaty-greenish spit, tinged at times with blood. He complained of pain in the right side, in the region of the wound; and it was noted that he felt much relieved after each dressing, when large quantities of pus were got rid of. His face and nose, eyebrows, and forehead became covered with a thick herpetic eruption.

Throughout the patient was very keenly conscious, and was distressed chiefly by the persistence of the abdominal swelling. Turpentine internally, and externally combined with fomentations, was employed for the reduction of the distention, but without effect. There was no tenderness on pressure. On the 7th the protrusion of bowel into the track of the femoral wound could be distinctly palpated as a hernia, and was easily reducible. On the 8th the patient had a syncopal attack, after which his condition remained critical from weakness. He ingested large quantities of milk, but, owing to the recurrence of vomiting, it was deemed advisable to a large extent to substitute alcohol and ice. Exhaustion daily increased. On the 11th—to indicate the intractable nature of the intestinal irritation—ten liquid motions were recorded. The patient succumbed on the 14th.

At the autopsy the following conditions were noted: Body extremely emaciated. External wound on right thigh; oblique upper margin four inches below pubic spine, an inch and a half in vertical measurement, two inches transversely. External wound in right infrascapular region in line with angle of scapula, occupying partly the sixth, and the seventh and eighth interspaces. Vertical measurement of wound, two inches; transverse, an inch and a quarter. On opening into the abdomen, the peritonæum was found thickened and adherent to the abdominal wall. The coils of intestine were distended and matted together. The omentum was represented by a thin membranous layer, with only traces of fat on its surface. A line of redness marked the upper line of adhesion between the coils of intestine. In the right iliac region, the bowel, peritonæum, and abdominal wall were closely adherent, and there was deep adhesion between the intestinal coils. The hernial protrusion into the cavity continuous with the external opening in the thigh consisted of small intestine glued together, and extremely difficult to separate. The funnel-shaped tube containing the hernia was wider at its proximal than at its distal end, due, no doubt, to the downward pressure of the bowel. The peritonæum was prolonged over the protruding intestine and was adherent to the muscular wall of the hernial cavity. The cæcum at its upper extremity was very deeply injected. In the process of separating adhesions between the bowel and liver, a tear of the size of a threepenny piece was made into the upper wall of the duodenum, from which issued a large quantity of intensely yellow thin fluid. The liver was enlarged. On its lower aspect, in the middle line and near the external border, was a torn, ragged surface, about two inches and a half in its longest diameter—*i. e.*, transversely to the organ. A lacerated wound, somewhat similar in size and appearance to the former, was found upon the upper external aspect of the gland. There was a wound in the thoracic wall below the insertion of the diaphragm, situated about two inches and a half external to the vertebral column, two inches in its vertical and an inch in its transverse extent. The tenth and eleventh ribs were fractured and comminuted in this situation. The right pleural cavity was found to be occupied by a large quantity of sero-purulent fluid.

The author remarks upon the extreme elasticity of the bowel as evidenced by absence of penetration. The injury to the duodenum he considers due to pressure between the weapon and the denser liver tissue, and does not think, in face of the adhesions that were forming, that it would have presented an insuperable obstacle to recovery. Toxæmia, hepatic rupture, and septic fluid in the thorax were, in his opinion, the causes of death.

The Action of Hydroxylamine on the Kidney.—Dr. G. Alonzo (*Clinica medica italiana*, 1898, No. 9; *Centralblatt für innere Medicin*, November 4, 1899) maintains that hydroxylamine produces in rabbits a true nephritis, most marked in the cortical substance. Binz found evidence of its action on the kidney in only one instance, in amounts of 0.15 of a grain to each kilogramme of the animal's weight.

End-to-end Anastomosis of the Ureter.—Dr. Dudley Allen and Dr. C. E. Briggs (*Boston Medical and Surgical Journal*, October 7th) relate a case of horseshoe kidney in which a successful end-to-end anastomosis of the ureter was accomplished. One ureter having been divided, a second ureter was found during the enucleation of the kidney implanted into its substance. Inasmuch as at the time of the division of the ureter the distal end had been seized with a pair of hæmostatic forceps, and thus crushed, it made the remaining portion of the ureter so short that a lateral anastomosis seemed impossible. The proximal end of the divided ureter was also cut off so high up that it was impossible to implant it into the bladder. The only thing which remained was an end-to-end anastomosis. This was done with very fine catgut and a careful and accurate approximation made. The operator, fearing lest there might be leakage of urine followed by infection of the abdomen, utilized a flap from the anterior wall of the pelvis, which had been partly formed by the removal of the uterus, and drawing this upward and backward sutured it to the brim of the pelvis. By this means the abdominal cavity was entirely closed off from the pelvis, and iodoform gauze was carried through the vagina and pelvis into the retroperitoneal opening made in the operation attempted upon the kidney. Some leakage occurred shortly after the operation. The authors remark that, of course, in a case of this sort it is impossible to demonstrate absolutely the success of an end-to-end anastomosis of a divided ureter. It might be said that the patient had but one pelvis to the kidney and that all of the urine passed by the undivided ureter. It might further be said that the calibre of the ureter had been closed by cicatrization, and that a portion of the kidney which it drained had become atrophied, its function being taken up by that portion of the kidney drained by the right ureter. An attempt was made during the progress of the case to see whether on the days in which there was leakage of urine *per vaginam* the amount passed by bladder was less, and also whether on days when there was no leakage *per vaginam* the amount passed by the bladder was greater. The authors were unable, however, to satisfy themselves upon either of these points, and therefore think that it is fair to conclude that the case is one of successful end-to-end suture of a divided ureter.

Proceedings of Societies.

SOCIETY OF ALUMNI OF BELLEVUE HOSPITAL.

Meeting of June 7, 1899.

The Vice-president, Dr. Charles E. Quimby, in the Chair.

(*Concluded from page 607.*)

Report of Cases of Sudden Death from Pulmonary Embolism, following Injuries or Operations in the Pelvic Region.—Dr. George P. Biggs read a paper with this title. (See page 772.)

Dr. Porter expressed the opinion that many cases of sudden death, particularly those occurring soon after an operation, which had hitherto been usually attributed to cardiac trouble, were quite possibly due to the condition which Dr. Biggs had described. He referred to a case coming under his observation where death had suddenly taken place about twenty-four hours after the removal of the breast. There had been no signs of cardiac trouble prior to the operation, and none had been revealed at the autopsy. In that instance, very probably, death had resulted from a pulmonary embolism.

Report of a Case of Mycotic Endocarditis.—Dr. H. M. Biggs reported the case.

Dr. Quimby thought it possible that Dr. Biggs's case belonged to a class in which suppuration occurs without the presence of pus organisms. He asked Dr. Biggs upon what grounds he assumed that an infection had occurred in this case, in view of the fact that the cavity had been so well protected, and that all efforts to find any kind of bacteria had utterly failed.

Dr. Biggs replied that his assumption had been based on the general ground that the anatomical lesions were identical with those found in infectious processes. The parenchymatous degeneration in the liver and kidney, as well as the nature of the changes in the heart, all pointed to an infection. Furthermore, we knew that occasionally organisms present in infectious processes die out. So far as he knew, such a clinical history, accompanied by such anatomical changes, could not result from chemical poisons. On the other hand, we did know that just such lesions and such a history were associated with infection, and that the organisms causing such infection might die out.

Dr. Quimby said that long before he had studied medicine he had met with an accident which had since suggested to his mind the possibility of a suppurative process from purely mechanical irritation. In attempting to close a door on a very cold day his forefinger had been injured while pulling on a glass doorknob. The wound had healed by first intention, but subsequently an abscess had developed at the site of the injury, and when this had opened, a piece of glass had escaped. Within a few months this process had repeated itself absolutely. Dr. Quimby said that in this case he was inclined to attribute the suppurative process to irritation rather than to the presence of a microorganism.

Report of Cases of Fibroid Tumors of the Uterus Complicating Pregnancy.—Dr. H. C. Coe read a paper with this title. (See page 773.)

Dr. Porter said he thought the essential point in connection with this subject was the situation of the fibroid growth. Certainly, a small fibroid growth—in fact, fibroid growths of considerable size in the upper portion of the uterus, and particularly those of the subperitoneal variety—had comparatively little bearing upon the possible existence of pregnancy. Those in the lower segment of the uterus, however, might prove very serious, and should be given due weight and consideration. In view of this possibility, operative interference should always be considered, no matter how small the growth might be. In such cases he was in favor of removing the growth without removing the uterus itself. He referred to two cases of this character, which he had presented to the society, in which pregnancy had subsequently occurred. In these the fibroids had been of the submucous variety, both being of considerable size, one having attained the dimensions of a small fœtal head. In that instance the growth had protruded from the cervix, and it had been removed entire, without morcellation. In the majority of cases, however, it was better to resort to morcellation. In those cases in which the growth was subperitoneal, the operation was very simple, and even during pregnancy, if the growth were situated low down, its removal might possibly be accomplished without interfering with gestation. Of course, with the interstitial variety, where the uterine tissues were involved, the conditions were different, and there very often hysterectomy would be necessary.

Dr. William J. Chandler said that these cases should be considered from all points before an operation was undertaken. He referred to one which had come under his observation ten or twelve years ago, that of a lady who had been married for some years, and who believed that she was pregnant. Upon examining her he had found a tumor, somewhat movable, a little to the right of the uterus, which gave him the impression that the case was one of extra-uterine pregnancy. The woman had all the rational symptoms of pregnancy, and after observing her for a week or two he advised her to consult a noted obstetrician, who, being unable to form a positive conclusion, called in an eminent ovariotomist. They finally decided that there was a subperitoneal fibroid, low down, and somewhat pedunculated, and one of them almost insisted that an immediate operation was the only means of saving the patient's life. The obstetrician, however, was in favor of waiting, and sent the case back to Dr. Chandler. That woman was delivered, in due course of time, of a healthy child, now ten or twelve years old.

The speaker said that in a case like the one he had narrated, it would certainly have been unwise to operate, as the woman had a pedunculated fibroid, which did not interfere at all with gestation. A submucous fibroid might present more serious symptoms, but the mere presence of a fibroid in a gravid uterus did not necessarily call for operation.

Book Notices.

Die Erkrankungen des Nervensystems nach Unfällen mit besonderer Berücksichtigung der Untersuchung und Begutachtung. Von Privatdocent Dr. Heinrich Sachs und Dr. C. S. Freund, Nervenärzte in Breslau. Mit 20 Abbildungen im Text. Berlin: H. Kornfeld, 1899. Pp. x–581.

This book is distinctively a product of the times. The relationship between injury and disease or disability has become one of the most important questions connected with medicine. In Germany, by the passage of the *Unfallsversicherungsgesetz,* or accident-insurance law, the interests of workmen injured in the pursuit of their occupations are provided for.

This implies careful examination and observation of the injured person and an increased general attention to the traumatic origin of disease. In this country the subject, though less systematically regulated than in Germany, is one of great importance. The most trivial injury is often made to serve as the basis of a claim for damages, and court calendars are largely filled with personal-injury suits.

Medical literature reflects these conditions. There are now several periodicals devoted exclusively to the relationship between disease and accident, and the scientific study of the traumatic origin of various diseases, but especially those affecting the nervous system, is more active than ever before.

Monographs, such as Oppenheim's *Traumatic Neuroses,* Pearce Bailey's *Accident and Injury,* Shuster's *Examination in Traumatic Diseases of the Nervous System,* and the one now before us, are constantly appearing.

The aim of the authors has been to provide a handbook for physicians brought in contact with accident cases in which there are lesions or disturbances of the nervous system. They have seen fit to devote the first half of the book, after a general introduction, to anatomical and physiological considerations and to symptoms and methods of examination.

This is an unequal allotment of space, as the subject proper is too long postponed and the book is made much larger than necessary.

The exposition of the relationship between physical and psychical injuries and disorders of the nervous system, in the last half of the book, is concise and accurate.

There is a systematic description of injuries to the central and peripheral nervous system, of the action of accidents as causative agents of neuroses and psychoses and of the influence of traumatisms in ætiology, and of the course of the chronic degenerative diseases.

The work appears an assimilation of facts already known rather than an original contribution. It is, however, a very useful compilation and is to be warmly commended for its thoroughness, its exactness, and for the soundness of the views expressed on unsettled questions.

Contribution à l'étude du prognostic de l'épilepsie chez les enfants. Par le Dr. E. Le Duigou, Ancien interne de l'hôpital du Havre. Paris: Félix Alcan, 1899. Pp. 3 to 56.

From an interesting study of cases observed in the Bicêtre over long periods of time the author draws the following justifiable conclusions as to the prognosis of epilepsy: 1. Idiopathic epilepsy is curable in a certain number of cases. 2. The prognosis is better when the convulsions appear at two years of age or later than when they begin during the first year of life. 3. Heredity, either direct or indirect, while it makes the outlook more unfavorable, does not necessarily exclude recovery. 4. Intellectual impairment, moral perversion, onanism, etc., make the prognosis worse. 5. Hemiplegic epilepsy is more frequently curable than the idiopathic variety.

Contribution à l'étude des obsessions et des impulsions à l'homicide et au suicide chez les dégénérés au point de vue médico-légal. Par le Docteur Georges Carrier, Ancien interne des hôpitaux de Lyon, etc. Paris: Félix Alcan, 1899. Pp. 193.

In this brochure are considered the clinical and medico-legal relations of imperative concepts and of impulsions to suicide and homicide. The subject is handled in a thoroughly scientific way. The views of alienists prominent in this borderland of medicine and law are given, and many new and interesting cases are adduced. The author is to be congratulated on his production.

BOOKS, ETC., RECEIVED.

An American Text-book of Surgery for Practitioners and Students. By Phineas S. Conner, M. D., Frederic S. Dennis, M. D., William W. Keen, M. D., Charles B. Nancrede, M. D., Roswell Park, M. D., Lewis S. Pilcher, M. D., Nicholas Senn, M. D., Francis J. Shepherd, M. D., Lewis A. Stimson, M. D., J. Collins Warren, M. D., and J. William White, M. D. Edited by William W. Keen, M. D., LL. D., and J. William White, M. D., Ph. D. Third Edition, thoroughly revised. Philadelphia: W. B. Saunders, 1899. Pp. xv–1228. [Price, $7.]

Lectures upon the Principles of Surgery. Delivered at the University of Michigan by Charles B. Nancrede, A. M., M. D., LL. D., Emeritus Professor of General and Orthopædic Surgery, Philadelphia Polyclinic, etc.

With an Appendix containing a *Résumé* of the Principal Views held concerning Inflammation by William A. Spitzley, A. B., M. D., Senior Assistant in Surgery, University of Michigan. Illustrated. Philadelphia: W. B. Saunders, 1899. Pp. 11 to 398. [Price, $2.50.]

A Text-book of Embryology for Students of Medicine. By John Clement Heisler, M. D., Professor of Anatomy in the Medico-chirurgical College, Philadelphia. With One Hundred and Ninety Illustrations, Twenty-six of them in Colors. Philadelphia: W. B. Saunders, 1899. Pp. 9 to 405. [Price, $2.50.]

Essentials of Anatomy, including the Anatomy of the Viscera. Arranged in the Form of Questions and Answers, prepared especially for Students of Medicine. By Charles B. Nancrede, M. D., Professor of Surgery and Clinical Surgery in the University of Michigan, etc. Sixth Edition, thoroughly revised by Frederick J. Brockway, M. D., Assistant Demonstrator of Anatomy, Columbia University, New York. Philadelphia: W. B. Saunders, 1899. Pp. 11 to 419. [Price, $1.]

Essentials of Physical Diagnosis of the Thorax. By Arthur M. Corwin, A. M., M. D., Instructor of Physical Diagnosis in Rush Medical College, Chicago, etc. Third Edition, revised and enlarged. Philadelphia: W. B. Saunders, 1899. Pp. 17 to 220. [Price, $1.25.]

Handbook of Medical Gymnastics. By Anders Wide, M. D., Lecturer in Medical Gymnastics and Orthopædy in the Royal Carolean Medico-surgical Institute, and Director of the Gymnastic Orthopædic Institute, Stockholm. With a Frontispiece and Ninety-two Illustrations in the Text. New York: Funk & Wagnalls Company, 1899. Pp. viii–373. [Price, $3.]

An Atlas of the Bacteria Pathogenic in Man, with Descriptions of their Morphology and Modes of Microscopic Examination. By Samuel G. Shattock, F. R. C. S., Joint Lecturer on Pathology and Bacteriology, St. Thomas's Medical School, London, etc. With an Introductory Chapter on Bacteriology: its Practical Value to the General Practitioner, by W. Wayne Babcock, M. D., Pathologist to the Kensington Hospital for Women, etc. Sixteen Full-page Colored Plates. New York: E. B. Treat & Co., 1899. Pp. 7 to 82. [Price, $1.]

Obstipation. A Practical Monograph on the Disorders and Diseases of the Rectal Valve. By Thomas Charles Martin, Ph. D., M. D., Professor of Proctology in the Cleveland College of Physicians and Surgeons, etc. Philadelphia: The Philadelphia Medical Publishing Company, 1899. Pp. 7 to 161.

On the Prevention of Eye Accidents Occurring in Trades. An Address delivered at the Opening of the Section of Ophthalmology at the Annual Meeting of the British Medical Association at Portsmouth, August, 1899. By Simeon Snell, F. R. C. S. Edin., Ophthalmic Surgeon to the Royal Infirmary, Sheffield, etc. London: John Bale, Sons, & Danielsson, Ltd., 1899. Pp. 32. [Price, 1*s*.]

Physicians' Manual of the Products of the Laboratories of Parke, Davis, & Co., including a Complete Price List, corrected to September 1, 1899. Press of Parke, Davis, & Co., 1899. Pp. 384.

F. Berger's French Method (1896). By François Berger, Chevalier de la Légion d'honneur, etc. New York: F. Berger, 1899. Pp. 172.

Report of the New York Hospital Saturday and Sunday Collection of 1898. Twentieth Annual Report.

The Blood in Diseases of the Cardio-vascular System. By Alfred Stengel, M. D., of Philadelphia. [Reprinted from the *Proceedings of the Pathological Society of Philadelphia.*]

Abrupt Onset in Typhoid Fever. By William Pepper, M. D., and Alfred Stengel, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal.*]

Preliminary Catalogue of Plants Poisonous to Stock. By V. K. Chesnut, B. S., Department of Agriculture. [Reprinted from the *Annual Report of the Bureau of Animal Industry.*]

The Pauper Inebriate—His Legal Status—Care and Control. By L. D. Mason, of Brooklyn. [Reprinted from the *Quarterly Journal of Inebriety.*]

Five Hundred and Fifty Surgical Operations without Alcohol. By Charles Gilbert Davis, M. D., of Chicago. [Reprinted from the *Western Clinical Recorder.*]

Anent an Urgent Duty of the Profession. By B. Oettinger, M. D., of Denver. Read before the Colorado State Medical Society.

Cystoid Disease of the Testicle: Teratoma Testis? By F. R. Sturgis, M. D. [Reprinted from the *American Medical Quarterly.*]

Enteric Fever: its Infection, Pathology, and Present Treatment. By Franklin Staples, M. D., of Winona, Minnesota. [Reprinted from the *Journal of the American Medical Association.*]

A Contribution to the Study of the Gastric Crises of Tabes. By Seymour Basch, M. D. [Reprinted from the *Medical Record.*]

Ueber den Eiweissstoffwechsel bei chronischer Unternährung. Von Privatdocent Dr. Albert Albu, Berlin. [Sonderabdruck aus der *Zeitschrift für klinische Medicin.*]

Wesen und Behandlung der Verdauungsstörungen Chlorotischer. Von Privatdocent Dr. Albert Albu, Berlin. [Sonderabdruck aus der *Zeitschrift für praktische Aerzte.*]

Klinisches und Anatomisches zur Lehre vom Magensaftfluss. Von Dr. Albert Albu und Dr. M. Koch, Berlin. [Sonderabdruck aus dem *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin.*]

Zur medicamentösen Behandlung der Lungentuberculose. Von Dr. M. T. Schnirer, in Wien. [Separat-Abdruck aus *Klinisch-therapeutische Wochenschrift.*]

Miscellany.

An Indian School of Pharmacy.—According to the *Pacific Medical Journal* for October, a chemical and pharmaceutical laboratory, the first of its kind in India, was opened at Rajkote Kathiawar, Western India, on November 29th of last year. The building, constructed at a cost of Rs. 30,000, is the gift of Azam Wala Laxmon Meram, chief of Thana Deoli. His fellow chiefs have adopted the laboratory as one of their central institutions and have voted Rs. 7,500 for the apparatus and an annual grant of Rs. 8,628 for the maintenance of the institution. The staff of the laboratory, consisting of Mr. H. L. Lee, formerly lecture assistant in the school of the British Pharmaceutical Society, with two native assistants, and a clerk, has already done one term of very satisfactory work with twenty-one students. The object of this laboratory is "to teach the native medical men or vaidyas the proper method of preparing drugs from Indian herbs, to investigate more carefully the properties of those in use, and to discover the virtues of others which, though used locally by herbalists, are not yet known to Western science." Of the twenty-one students, thirteen hold scholarships provided by different States. The remaining eight are private students studying at their own expense.

The Southern Surgical and Gynæcological Association.—The twelfth annual meeting will be held in New Orleans on Tuesday, Wednesday, and Thursday, December 5th, 6th, and 7th, under the presidency of Dr. Joseph Tabor Johnson, of Washington. The programme includes the following titles: Myomatous Tumor of the External Iliac Vein, with a Report of a Case, by Dr. A. M. Cartledge, of Louisville; Nephrectomy, by Dr. Howard Kelly, of Baltimore; Ureterectomy, by Dr. J. Wesley Bovee, of Washington; Renal Calculus, by Dr. Richard Douglas, of Nashville; Serious Complications following the Passage of the Urethral Sound, by Dr. W. E. Parker, of New Orleans; Gunshot Wounds of the Abdomen, by Dr. H. H. Grant, of Louisville; The History of Pulmonary Insufflation and Artificial Respiration in Intrathoracic Surgery by Intubation of the Larynx, by Dr. R. Matas, of New Orleans; The Technics of Early Operations in Cleft Palate, by Dr. James E. Thompson, of Galveston; Rectovesical Fistula, by Dr. F. D. Parham, of New Orleans; Rectovaginal Fistulæ, by Dr. L. S. McMurtry, of Louisville; Vesicovaginal Fistula of Large Size, by Dr. M. C. McGannon, of Nashville; Urinary Bladder met with in Operating for Strangulated Hernia, by Dr. W. O. Roberts, of Louisville; Remarks on Vaginal Hysterectomy, by Dr. H. S. Cochran, of New Orleans; A Unique Specimen of Pelvic Tumor, by Dr. C. Jefferson Miller, of New Orleans; A Rare Specimen, with a History of the Case, by Dr. Rufus B. Hall, of Cincinnati; Surgical Shock, by Dr. W. F. Westmoreland, of Atlanta; Biliary Calculi, by Dr. W. D. Haggard, of Nashville; The Different Phases of Electric Treatment, by Dr. J. McFadden Gaston, of Atlanta; The Treatment of Recent and Ununited Fractures of the Femur by Wiring, by Dr. J. W. Long, of Salisbury, North Carolina; Inflammation of Meckel's Diverticulum, simulating Appendicitis, by Dr. William P. Nicolson, of Atlanta; The Immediate Hermetic Sealing of Aseptic Wounds, by Dr. Henry O. Marcy, of Boston; Remarks on the Influence of Technics upon the Results of Abdominal Surgery, by Dr. Charles P. Noble, of Philadelphia; Injury to the Peritonæum, by Dr. T. J. Crofford, of Memphis; the president's address, by Dr. Joseph T. Johnson, of Washington; Experience in Operations for Typhoid Perforations, by Dr. Hugh M. Taylor, of Richmond, Virginia; The Ligation of Lingual Arteries in Operations for Cancer of the Tongue, by Dr. W. S. Elkin, of Atlanta; Four Interesting Cases of Abdominal Surgery: Pancreatic Cyst; Hepatic Calculi; Fæcal Fistulæ, by Dr. Floyd W. McRae, of Atlanta; Litholapaxy, by Dr. George S. Brown, of Birmingham, Alabama; The Treatment of Stone in the Urinary Bladder, by Dr. Hunter McGuire, of Richmond, Virginia; Craniotomy *versus* Cæsarean Section, by Dr. F. T. Meriwether, of Asheville, North Carolina; Beef Gall in the Treatment of Post-operative Obstinate Constipation and Intestinal Obstruction, by Dr. F. C. Ameiss, of St. Louis; Spinal Injuries treated at the Louisiana Charity Hospital, by Dr. E. D. Fenner, of New Orleans; Suprapubic Cystotomy, by Dr. W. L. Rodman, of Philadelphia; Amputation or Extirpation in Cervical Cancer, by Dr. George J. Engelmann, of Boston; A Modification of an Operation for Cystocele, by Dr. George H. Noble, of Atlanta; Bilharzia Hæmatobia, by Dr. Edwin Walker, of Evansville, Indiana; A Plea for Early Diagnosis in Appendicitis, by Dr. Archibald Dixon, of Henderson, Kentucky; Intestinal Obstruction, by Dr. J. D. Bloom, of New Orleans; Tuberculous Peritonitis, by Dr. S. M. Fortier, of New Orleans; The Technics of Brain Surgery, by Dr. J. D. S. Davis, of Birmingham, Alabama; Splenectomy, by Dr. Charles A. L. Reed, of Cincinnati; True Conservatism in Abdominal Surgery, by Dr. James T. Jelks, of Hot Springs, Arkansas; Some Cases requiring Abdominal Section for Diagnosis, by Dr. J. A. Goggans, of Alexander City, Alabama; The Technics of Local Anæsthesia for Major Operations, by Dr. R. Matas, of New Orleans; Seventeen Years' Congenital Nocturnal Incontinence of Urine—Pregnancy in Uterus Bicornus, by Dr. George H. Noble, of Atlanta; The Treatment of Retro-displacement of the Uterus, by Dr. I. L. Watkins, of Montgomery, Alabama; Some Phases of Intestinal Fistulæ, by Dr. J. B. Murphy, of Chicago; and Operations on the Liver and Biliary Tract, by Dr. W. E. B. Davis, of Birmingham, Alabama.

How a Doctor may be Called from a Theatre.—A newspaper statement lately appeared to the effect that the Jersey City theatres were to provide bulletin boards in the lobby upon which a physician could write his name and the number of his seat, so as to make it easy to call him out in case of need without disturbing the rest of the audience.

Obstetrics au Naturel.—Dr. B. F. Chambers (*Medical Monitor; Gaillard's Medical Journal*, October) says that a physician whose practice rarely causes him to venture beyond the suburbs of a city has lived but half of life, and some of the experiences of the practitioners located where the owls hoot loud and long would sound like a narrative taken from a "yellow-back" novel.

Dr. Chambers was called to attend Mrs. S., aged thirty-four years, while in labor with her fourth child. He found the patient on her knees by the bedside, with her head resting on the bed rail (this being a common position in that locality, through the teaching of a midwife). On observing the frequency and quality of the pains, he invited the patient to lie down for her comfort and his convenience, but was informed that she had had more babies than he and knew full well which was the easier position.

After examination and a few minutes of mental philosophy in making allowance for the peculiar position of the patient, he found the fœtus in the second position. Soon after his examination he noticed the patient herself making an examination, and she informed him in due time that it was not right; that (to use her own language) the big part of the head was not as it had been with the other children. Finally, to add to his astonishment, she arose, stooped forward, and caught something between her limbs, which he could not see for her gown, but presently he heard the cry of a much-abused urchin, which was the signal for scissors and band. He ligated the cord, turned to place the child in the attendant's care, and behold! the patient had the umbilical cord in her hand and was pulling the placenta from her body. Dr. Chambers was a victim of astonishment, fright, and anger. He got to her in time to catch the placenta as one would seize a football in a mad rush. To add to the exciting scene, the patient stood perfectly erect, threw her shoulders back, drew a sigh of relief, tossed her gown back, and came from it as a gentleman does in the exit from an overcoat. There she stood, devoid of any fabric save her stockings. In a strong, commanding tone she asked for her clean gown, which was handed her, and was donned without assistance. She crawled into bed, covered up, and swore that she wasn't going to have any more. The patient made a rapid recovery, and Dr. Chambers judges from her present appearance that she was joking about the future.

Chronic Progressive Rigidity of the Spine with Ankylosis.—At a meeting of the New York Neurological Society, held on November 7th, Dr. B. Sachs opened a discussion on this subject. He said that in 1892 a paper on it had been published in a Russian journal by von Bechtereff. The symptoms were immobility, complete or partial, of the whole spinal column, without any distinct tenderness on percussion; a paretic condition of the muscles of the head, trunk, and extremities and a diminution of sensation within the distribution of the cutaneous branches of the nerves supplying the back and the lower cervical plexus; and paræsthesia and pain in the back, neck, extremities, and vertebral column. All other joints had remained exempt in spite of the progressive character of the disease. Traumatism and hereditary influences were supposed to be the chief ætiological factors. Strümpell, in 1884, had very properly called attention to these cases in a chapter on chronic rheumatism. The chief difference between the descriptions given by these two authors was in the implication of the hip joints and the entire absence of spinal-root symptoms in the type described by Strümpell. Marie had also described the malady under the name of *spondylose rhizomélique*. In some of the cases described there was a superficial resemblance to arthritis deformans. Von Bechtereff, in a post-mortem examination made on one of the first patients described, found chronic leptomeningitis in the upper cervical region leading to compression of the spinal roots. The degeneration of the spinal roots was supposed to have been due to changes in the nerve cells. The gray matter of the cord was not diseased. He had been surprised to find no primary lesion of the vertebræ or joints. Marie had studied a skeleton in which there was marked proliferation of the lumbar vertebræ and the bones entering into the formation of the hip joint, and inferred that ossification of the ligaments must have caused the complete immobility of the spine. The von Bechtereff type was characterized by chronic rigidity of the spine, often limited to the cervical region, a chronic leptomeningitis with root- and spinal-cord changes, and without vertebral joints being affected. In the Marie type there were no root symptoms, but ossification of the ligaments, hypertrophy, and ankylosis of the joints.

Four cases were then reported.

The speaker said that von Bechtereff's type must be looked upon as one of secondary rigidity. Ordinary rheumatic affections occurred equally in the two sexes, whereas, with but one exception, the reported cases of spinal rigidity had been in males. Comparison of the pathological conditions showed that in rheumatism the affection of the ligaments was secondary. The differences between arthritis deformans and the type under discussion were not so marked.

Dr. Fraenkel said that the chief question to decide was whether there was any pathological relation between the Strümpell type and cases of chronic rheumatism or arthritis deformans. Of course, chronic rheumatism would give rise to a stiff back, but there would not be the clinical symptoms emphasized in the paper just presented.

Dr. Gibney said that his attention had been called to the subject about eighteen years before by a case of spondylitis deformans, and since then he had been trying to distinguish the many varieties of stiff back that came under his observation. He had seen a number of cases of senile arthritis.

Dr. C. L. Dana said that he had been taught that there were two types of arthritis deformans—viz., the type beginning in the small joints and progressing steadily, and the senile type, beginning in the back and hips and stiffening them. There were almost always some cases of that kind in Bellevue Hospital. He had studied his own cases in connection with those reported by others, and had come to the conclusion that the cases of the Strümpell-Marie type were nothing more than arthritis deformans. He felt sure that, in due time, cases would be found in which the spine only was affected and only the root joints. He now had a case in which only the hips were affected, the spine not having been involved as yet. He did not personally feel that either Strümpell or Marie had added anything at all to our clinical knowledge of these cases. Twenty-five years ago it had been stated very clearly that rheumatoid arthritis sometimes presented this particular form. Von Bechtereff had certainly described types that were distinctly secondary; the case reported with autopsy seemed to him one of specific meningitis. There was a type of stiff spine which had been described by Dr. Bradford, of Boston, and proved by him to be due to gonorrhœal rheumatism. In this case the history was most conclusive. He now had under observation a very bold kyphotic spine, and there seemed to him but little doubt that the case was rheumatoid arthritis. He therefore believed that *spondylose rhizomélique* was a nosological superfluity.

Dr. George R. Elliott said that three years before he had examined under ether, with Dr. Fraenkel, one of the patients presented that evening, and had found that the rigidity had remained. Since that time the case had proved to be a classical one of *spondylose rhizomélique* of the Marie-Strümpell type. He was not yet willing to admit that we were dealing with a disease *per se*. That it was not arthritis deformans admitted of little doubt. It had been said that this type could be distinguished from arthritis deformans by the fact that the latter affected chiefly the small joints, but he believed such a statement must be modified. A clinical examination of so-called arthritis deformans revealed two distinct findings—viz.: one, an atrophic process, in which, after acute or subacute symptoms, the joint got smaller, and a second clinical picture, in which the joints became hypertrophied. Pathological study supported the clinical findings. He could see nothing in either the clinical history or the pathological study of the type presented which differed from the hypertrophic form of the smaller joints. He was of the opinion that there were two distinct diseases—arthritis deformans and a proliferating arthritis. This might be called the Strümpell-Marie type or, better, central type of the proliferating kind, as distinguished from the peripheral type of the proliferating kind; but it was not to be confounded with arthritis deformans proper. That the small joints always escaped, as had at first been held, was not true. Marie himself had reported affection of small joints in one of his cases. This statement was supported by Bannatine, of England, and Goldthwait, of Boston. There was much about the type of disease under discussion to suggest a degeneration—viz., gradual destruction of soft parts of joint and partial replacement by osseous material, the parts becoming welded together with very little excess of tissue or deformity. The proliferation, which was slight, appeared as a secondary process, the result of irritation. It was very unlike that producing so-called arthritis deformans proper. It was not so rare as might be supposed from the few cases so far reported. Dr. Goldthwait had reported, at the last meeting of the American Orthopædic Association, ten cases which had come under his observation. So marked a type as one of the cases just presented was rare indeed; it was a classical example of the Strümpell-Marie type or central type.

Dr. W. R. Townsend said that he had at present under his care a child presenting a picture very closely resembling arthritis deformans. If he remembered correctly, Charcot had insisted that these cases were not rheumatic, but neurotic. He had seen a number of cases of rigid spine, and had supposed them to be either rheumatic or of the types of arthritis deformans of the neurotic character described by Charcot.

Dr. Collins said that a discussion of this kind could not be profitably carried on until the various conditions spoken of had been clearly distinguished. He then reported two cases occurring in women.

The speaker said that cervical meningitis would produce a stiff back and a stiff neck—a symptomatic stiff back—and it seemed to him that this was the character of von Bechtereff's case.

The president, Dr. Peterson, said that he had seen three or four cases, all of which he had diagnosticated as arthritis deformans of rheumatic origin.

Dr. Sachs remarked that the von Bechtereff type had been brought into the discussion because it had been necessary to distinguish it from the others, and for this reason he had endeavored in the paper to show more clearly than previous writers that von Bechtereff's case was of the secondary type. The morbid changes were quite different in the two types. In the European journals there had been much opposition to the view that they were at all closely allied to rheumatism or to arthritis deformans.

Blindness due to Intestinal Hæmorrhage.—At a meeting of the Section in Ophthalmology of the College of Physicians of Philadelphia held on October 2d Dr. William M. Sweet showed a patient in whom blindness had occurred six days after profuse hæmorrhage from the bowels, the vision of the left eye being entirely lost, while in the right eye a small area to the temporal side of the fixing point was preserved. Ophthalmoscopic examination made three days after the hæmorrhage showed moderate contraction of the retinal arteries, paleness of the optic discs, with the margins slightly hazy, and slight œdema of the retina, especially toward the foveal region, but no retinal hæmorrhages. From the lower border of the right optic disc a ciliary artery passed toward the fovea, and the preservation of some vision in this eye was probably due to the blood supply from this source.

Of the theories advanced to account for cases of blindness after hæmorrhage, that of Westhoff and Ziegler, who believed that the ischæmia produced a fatty degeneration of the nerve fibres, would seem to explain the symptoms in many of the cases. Theobold considered that the degeneration followed a thrombosis in each central artery of the retina, the enfeebled blood current in the retinal artery being further obstructed by the intraocular tension. In this case, however, there was not the marked contraction of the retinal arteries that might be expected to follow a plugging of the main arterial supply of the retina. Ziegler's autopsy, twenty days after the hæmorrhage which led to the loss of vision, showed fatty degeneration of the optic nerves and their intraocular expansions, a condition which Ward Holden had shown, by experimental researches, to follow degenerative changes of the retinal ganglion cells.

Dr. de Schweinitz referred to the work of Ward Holden in investigating pathological changes in this and analogous cases. He believed that the blindness was due to œdema of the retina followed by early changes in the ganglion cells. These changes led to degeneration of the cells and fibres extending upward into the optic nerve as far as the chiasm. The symptoms in Dr. Sweet's case seemed to be well explained by this theory.

Bacilli as Lethal Weapons to Extort Blackmail.—The *Indian Medical Record* for September 27th says that, according to a Vienna correspondent, a blackmailing case with a humorous aspect has been occupying the attention of the criminal courts at Gratz. An elderly lady of great wealth one day received a letter saying that if she did not send the sum of ten thousand florins in small bank notes to a given address the writer would work a fearful revenge by opening in her room a bottle containing the bacilli of various infectious diseases, which would certainly cause her death. The lady appealed to the police, who discovered the would-be blackmailer. A bottle found in his possession really contained bacilli, which the culprit, who was a medical student, had stolen from his professor's lecture room. A sentence of eighteen months' hard labor will doubtless prevent this promising youth from further blackmailing enterprises.

The Hospital Ships for South Africa.—The London correspondent of the *Medical News* in its issue for November 4th says two Union Cape liners, *Spartan* and *Trojan*, have been chartered for hospital ships, and one of them has already been turned into an admirable floating hospital equipped with the latest electric fans for ventilation, sixty-five swing cots so arranged that they can sway with the motion of the vessel or be locked absolutely steady, sisters' quarters, and medical officers' quarters. A most important part of the equipment, of the need of which in tropical warfare our terrible experience before Santiago served as a magnificent object lesson to the civilized world, is a huge carbon-dioxide refrigerating machine capable of turning out half a ton of ice a day. The operating room is placed in a superstructure on the upper deck and is beautifully fitted up with the latest mechanism in operating tables. A complete Röntgen-ray apparatus for the localization of bullets finishes this almost ideal equipment. As the heaviest part of the fighting is expected to occur from within sixty to a hundred miles of the coast, a floating hospital of this description in the sea air will be a perfect godsend to many a poor fellow in the stream of wounded pouring back from the front.

Original Communications.

NOTES UPON
X RAYS AND INJURIES OF THE HEAD.

By J. RUDIS-JICINSKY, A. M., M. D.,
CEDAR RAPIDS, IOWA.

SOMETHING over three years ago, having an unusual number of cases of tuberculosis in a part of the country comparatively healthy, I made a few experiments with X rays and their efficiency in medical diagnosis. I was particularly anxious to make good radiographs of different parts of the lungs. Diseased portions showed up well in marked contrast to the clear space of the normal lungs.* Knowing this, and from other experiments, I had collected many proofs that it is only a question of time when the X rays will and must assist us in the field of medical pathology, as well as in surgery. I went to work to study the means of diagnosis in cases of injury of the head, and tried my best in experimenting to illustrate, with comparatively very short exposures, the increasing efficiency of the Röntgen light in this line also. I know that this plan of diagnosis has been tried, but in a great majority of cases it has not been a success, and that by most surgeons it is considered unsafe. Notwithstanding all this, I could not banish from my mind the conviction that if proper care and some modifications were used, it could not result in any injury to the patient, and might help us along very well to make an *early* and *proper* diagnosis. To be conservative and from seeing the radiographs made,* we have to acknowledge that the use of the X ray is very promising in this regard.

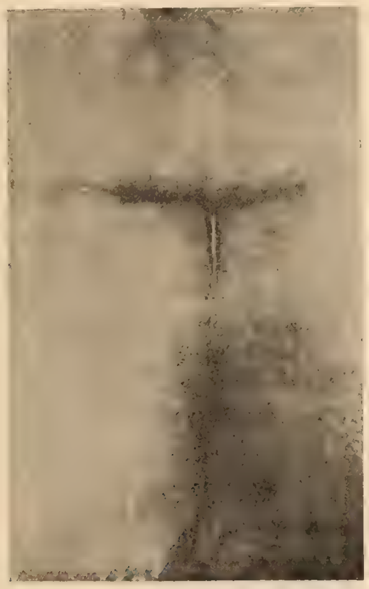
FIG. 1.—Normal frontal and both parietal sutures.

We know that in examinations of head injuries the main feature is the estimation of the intracranial lesion.† With the help of the X ray the local cranial wound may be much better examined than in the usual way. If fracture exists, whether it is simple, compound, or complicated, with fissuration or depression, is determined in five to ten seconds, without any danger of complications, inflammation, etc., because the trephine or elevator may be applied at once to arrest bleeding and remove pressure of the bone. You may see also the simple or stellate fissure of the inner table in plain, dark lines, without prolonged and sometimes dangerous exploration, and when hæmatoma is present it can not mask the bony outlines. The shadow of bone and the shadow of hæmatoma are altogether different, and you can determine on the plan of treatment in such cases much better, especially if the attending symptoms are taken into consideration. In cases of foreign bodies the results of diagnosis are still better obtained (compare the radiograph Fig. 1 of the normal skull with Fig. 2, brain exposed for experiment on cadaver). There is a marked difference in shadow between the bony parts and the four shots (lead) introduced behind the bone. We may see and observe not only how large the shots are, but how deep they went, and measure this according to the intensity of the shadows. The same radiograph and Fig. 5 show the orbit very well and plainly, proving that we may search for foreign bodies in the eye with the X ray just as well.‡ In cases of hæmatoma the picture of the same may show beautifully, as in our case, Fig. 3. In cases of bony growths within the cranial walls, some tumors of the brain between the cranial wall and

FIG. 2.—Brain exposed; four shots (lead) behind the bones.

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* *New York Medical Journal*, February 18, 1899, by the author. Beelere, in *Bull. méd.*, Paris. *Rayons X*, Paris, March, 1899.

* Some of the negatives from which our illustrations are taken are full of detail which is lost entirely in print.

† Allison. Western Surgical Society, December 29, 1898.

‡ Wound in the Eye by a Grain of Lead. Bourgeons, in *Un méd. du Nord-Est*, Reims. Perforating Wound of the Eyeball. Nance, in *The Chicago Clinic*, etc., No. 4, 1899. Localization of Foreign Bodies in the Eye and Orbit by X Rays. *Archives d'électr. méd.*, Bordeaux.

dura mater, etc., and cases of hydrocephalus the X ray will be in the very near future a good help to us in diagnosis. The fluid contained in the sac, clear or dark from the admixture of blood, gives an area of bright reflex surrounded by a dark line on the plate of the fluoroscope, or a marked shadow in contrast with the brain tissue, so that the fluoroscope enables us to recognize more fully and locate accurately the degree, position, and relation of areas filled up with fluid or blood clot or containing calcareous deposits (Fig. 4). With the help of the X ray we may know how far to go, and relieve the intracranial pressure perhaps by paracentesis capitis, and in non-congenital cases give much benefit.*

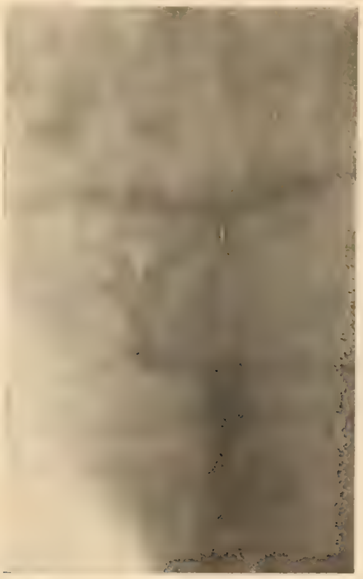

FIG. 3.—Epidural clot under the parietal bone on the left.

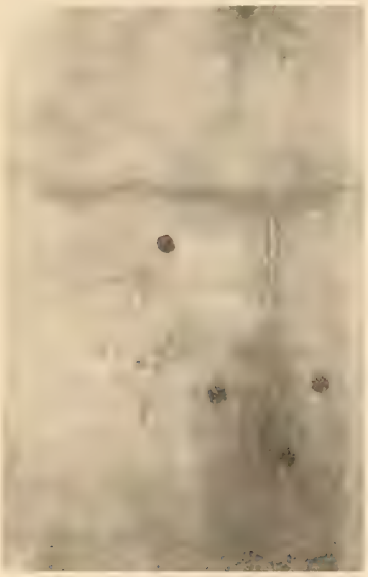

FIG. 4.—Calcareous deposits in the brain; four shots.

I would not advocate giving up any of our other methods of making a diagnosis, but would strongly urge making a careful X-ray examination of the head in case of injury, and think that with the old but good rules of Broca, Séguin, Mills, Nancrede, and others for cerebral localization, the application of the X ray will be considered appropriate * (Fig. 5) to confirm our diagnosis early and make it sure—surgically speaking—in our care of these cases. One may see the sutures of the skull plainly and can make out the grooves for the meningeal arteries so well, that the search for the fissure of Rolando must be a much easier task and a simpler one.

The following case will illustrate the usefulness of the X ray. The symptoms were obscure and pointed to a non-operative line of treatment, but the X ray proved that we had to operate. In reporting the case I fully realize that one or two cases are very little to build on, but let us see:

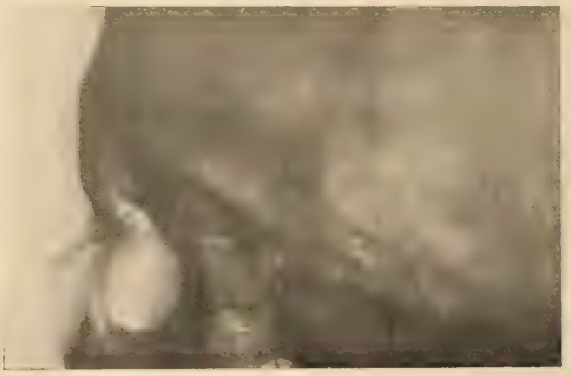

FIG. 5.—A bullet behind the orbit lodged in the right wing of the sphenoid.

Joseph F. B., aged thirty-nine years; sunstroke six years ago. Since that time had complained of dull, persistent headache on the left side of the head, changed disposition, was irritable, had vertigo, dyspepsia, vomiting, soon followed by slight palsies, but no convulsions. Lately, retention of urine and symptoms more obscure. The tone of the muscles and intellection were unimpaired. With the parts of the head not examined covered with stanniol and those exposed oiled—for protection against burning—the X ray revealed under the parietal bone at the sagittal suture on the left a large epidural clot † (Fig. 3). The clot, amounting to four ounces, was removed, and recovery followed in three weeks, without any complication.

The pictures are the results of my own actual and personal experimentation, proving satisfactorily that the shadows which are seen most beautifully correspond exactly with the radiation from the disk of platinum in the Crookes tube.* Having this in mind, we must always know the power of our X ray, the distance of the tube from our object, the distance from the plate, the duration of exposure, and the angle at which the picture is taken. If we wish to make a correct diagnosis and produce an accurate picture, we must never be satisfied with one radiograph of the case, but make it also our duty to compare the picture of the injured part with the normal one. Work as rapidly as possible, make short exposures, and protect your patient. To read correctly the lesson of an X-ray picture, know your anatomy and pathology, keep the obliqueness of X rays always in mind, make it as nearly life size as possible, to get sharply defined outlines, remembering that we are dealing with shadows only, and use a proper dividing screen (Dennison's, etc.) for measurements and exactness of your pictures.†

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* The proportion of recoveries being about one in four, and at least ten cures having, according to Thocas, been effected by such procedure.

* A Bullet in the Brain. Von Burkhardt, in *Med. Corr.-Bl. d. Würtemb.*, July, 1899. E. von Bergman, in *Arb. aus d. chir. Klin. d. k. Univ.*, Berlin.

† Spark used, twelve inches; distance of the tube from the object, ten inches; plate right behind; duration of exposure, five seconds; angle at which the picture was taken, 36°; plate of tungstate of calcium over the dry plate to shorten the exposure.

There is no question that we stand upon the vantage ground of more accurate observation with the application of the X ray, and may hope that the results of these and other experiments, in which the most exact science will be followed with the honest intent "*pro bono medicinæ*," will be such that an endeavor will be made to extend the usefulness of the X ray in all our work "to relieve suffering and prolong life."

VACCINATION.

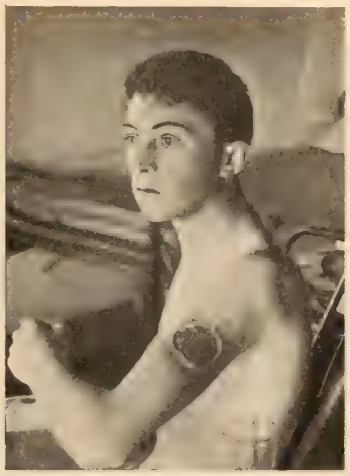
By F. G. ATTWOOD, M. D.,
WASHINGTON, D. C.

It having fallen to my experience recently to observe a number of hideously sore arms caused by vaccination, I have been led to inquire whether such were the evidences of true vaccinia or of some extraneous infection.

After a series of interesting experiments I have reached the conclusion that most of the untoward results of vaccination are due to the employment of an improperly prepared, and more especially an improperly protected virus. Would any sane physician, with the least knowledge of or experience with infection processes, be willing to make an abrasion in the cuticle of an innocent person and then proceed to rub upon the denuded surface any other animal substance, such as blood serum, which had previously been exposed to the atmosphere for weeks? Yet, bold as the statement may seem, that is precisely what is being done every day, under the name of vaccination, in the use of the unprotected points. In the eyes of careless or thoughtless persons ivory points seem harmless, indeed safe, because they have a white, clean appearance. But the educated physician, familiar as he is with the dangerous and insidious action of micro-organisms, is not so easily deceived. He knows that on a vaccine point there is an excellent culture medium which has been exposed to infectious contamination. Then, after a sufficient time has elapsed for germ life to develop, the infected matter is introduced into the blood of some healthy human being, with no thought or concern as to what organisms may find entrance there. Need it surprise us that antivaccinationists are active and on the alert? Can we assure the victim of such treatment that he has been successfully vaccinated, and is therefore protected against the infection of variola, after he has been confined to his bed for days, and has suffered more or less for weeks?

True, his arm has been sore, fearfully sore, but is that vaccination?

Antivaccinationists, from the time of the immortal Jenner to the present day, have pointed to such cases as these in justification of their teachings. The photographs, which are here produced, are cases which I have observed. They are not presented on the grounds of novelty, for every medical man has seen the same condition, but rather to illustrate emphatically what I have stated.



The question naturally arises, What practical method, if any, has been devised to obviate such deplorable results? My answer to this question is, Use sterile glycerinated lymph, hermetically sealed in glass tubes, and thus protected from accidental contamination. As evidence of the high esteem in which glycerinated lymph is held I append this letter, received from Professor Welch, of Johns Hopkins University, whose word is authority in medical teaching:

"Baltimore, *March 12, 1899.*

"Dear Dr. Attwood: I have received your letter and the photograph. It is unquestionable that the glycerinated vaccine lymph is the best, and it ought to replace the ivory points. The glycerin destroys most contaminating bacteria to which such results as that shown in the photograph are due, and leaves unaffected the organism of vaccinia. Thus very sore arms from extraneous infection are almost excluded by the use of the glycerinated virus. Parke, Davis, & Co.'s aseptic vaccine (glycerinated) is trustworthy and as good as any to be obtained. Very truly yours,

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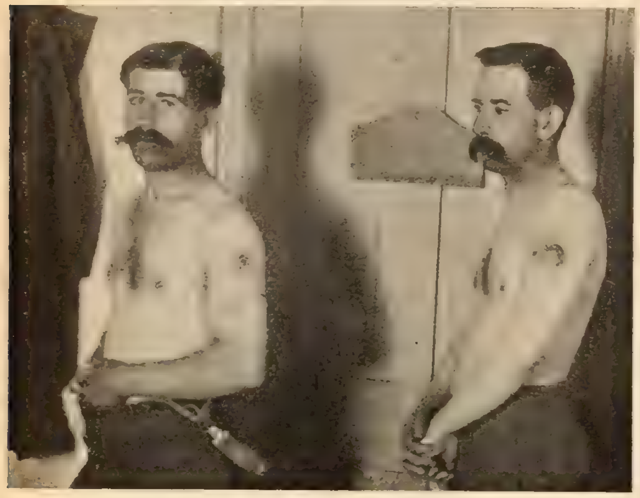
* *The X Ray*, by William J. Morton, M. D., New York.

† *The American X-Ray Journal*, by the author, No. 2, February, 1899.

"WILLIAM H. WELCH."

Glycerinated vaccine is aseptic vaccine. It consists of the pulp of the cowpox vesicles mixed with pure glycerin. The glycerin destroys the comparatively few streptococci or other bacteria likely to be present despite the most careful manipulation. While glycerin is not a powerful germicide, it is sufficiently so, as has been demonstrated, to render germ free and to preserve aseptic the virus with which it may be mixed.

To those who are acquainted with the methods of Messrs. Parke, Davis, & Co. in the production of serums it will be unnecessary for me to state that in the elaboration of vaccine they guard every step with the most uncompromising scrutiny. They assure the purity of their product by the most rigid antiseptic and aseptic measures. The heifers, before being vaccinated, are tested with tuberculin. As an additional safeguard they are slaughtered afterward and a careful inspection of the carcass is made by an expert. If any evidence of disease should be found the vaccine virus from that animal is entirely destroyed.



In performing a vaccination the part selected should be made surgically clean. The site is then scraped with a sterile lancet until serum begins to exude. If by too vigorous scraping blood should be drawn, the spot should be carefully dried with a pledget of sterile cotton before applying the lymph. The ends of the capillary glass tube are then broken off, and the lymph is ejected upon the site of scarification by means of the rubber bulb placed upon one end of the tube. The lymph is then thoroughly rubbed into the abraded area with the lancet and the spot is permitted to dry. Protection is afforded by covering the spot with a pad of sterile gauze, retained by means of a bandage.

In conclusion, it may not be inappropriate to call attention to several sources of infection, to guard against which as much care should be exercised as in undertaking any operation involving an incision into the sound integument: these are dirty scarifiers, unwashed arms, unwashed hands, and unclean underwear, which should never be allowed to come in contact with the site of vaccination. The method which I use to make the selected spot surgically clean is about as follows: The arm is first washed well with soap and water and dried; then the point of inoculation is bathed with alcohol on a pledget of cotton, and after the alcohol has evaporated the scarification is made.

Another method which I have tried with good results is to subcutaneously inject the glycerinated lymph with a hypodermic or an antitoxine syringe. The syringe must be so constructed as to admit of thorough sterilization before use.

FURTHER EXPERIMENTAL RESEARCHES
ON THE
EFFECTS OF DIFFERENT ANÆSTHETICS ON THE KIDNEYS.

By ROBERT COLEMAN KEMP, M. D.

(*Concluded from page 772.*)

EFFECTS OF ETHYL-CHLORIDE ANÆSTHESIA.—That the effect of ethyl chloride is chiefly respiratory we learn from the following experiment: Mr. Moschowitz, a chemist of this city, anæsthetized for me a cat with chloroform. The anæsthesia was normal. On changing the anæsthesia to ethyl chloride, stertorous breathing, difficulty with respiration, leg tremors and convulsive movements of the hind legs, and temporary tonic spasm of the hind legs resulted. These symptoms corresponded to the respiratory effects of anæsthol.

CONCLUSIONS.—As regards ether, it would appear that this agent produces a *special contraction of the* renal arterioles, with a consequent damaging effect upon the renal secretory cells, similar to those which follow clamping the renal artery. The kidney shrinks in bulk, with consequent fall of the oncometric tracing, and accompanied by diminution of secretion, marked albuminuria, and, finally, suppression. As remarked before, this condition of the kidney is not due to any change in the general arterial circulation, since it occurs not only when pure ether is administered, but also in the mixtures in which it is a constituent, if the semiclosed or closed method is employed. Thus an ether kidney but a chloroform heart ensues, as in the use of the A. C. E. mixture. When changed to the open method of anæsthesia, the ether-kidney trace disappears and is replaced by that of chloroform.

These facts would seem to contraindicate the use of ether as an anæsthetic when renal disease is present, and particularly when with the albuminuria there is a tendency to pulmonary œdema.

The effect of chloroform upon the kidney seems to be nil. The oncometric curves are nearly normal, and are affected only through sharing in general circulatory changes. The secretion of urine continues up to the last moment of life, and the albuminuria is so slight that its presence at all is apparently due only to respiratory interference. Meantime the action of chloroform on the heart, as shown by the carotid tracings, is directly depressing. Ether, on the other hand, shows evidence of cardiac stimulation throughout.

The A. C. E. mixture shows the special effects both of ether on the kidneys and of chloroform on the heart, either being predominant according to the mode of the administration. If a large percentage of air is simultaneously inhaled, as is the case when chloroform alone is administered, the effect is that of chloroform—cardiac depression without effect of ether upon the kidney. If, however, the A. C. E. mixture is administered more as ether is when used alone, then a study of the carotid and kidney tracings shows clearly that we have both the cardiac depression of chloroform and the renal derangement of ether combined. This seemed to cause such powerful effects upon the breathing and upon the heart that artificial respiration had to be resorted to in every dog to which this mixture was freely administered, which was not the case with either ether or chloroform. So far as our observations go, therefore, we fail to see any advantage in this mixture of chloroform and ether, but rather the reverse.

These objections appear to be still more applicable to Schleich's anæsthetic. The cardiac depression of chloroform and the renal disturbance of ether are simultaneously developed in the tracings, similar to but to a greater degree than with the A. C. E. mixture. Schleich claims that mixtures of different anæsthetics of different boiling—*i. e.*, maximum evaporation—points are safer than the administration of the anæsthetics alone, on the assumption that the absorption of an anæsthetic as to quantity depends upon its boiling point. The more volatile an anæsthetic is, the less will be absorbed into the blood in a given time. Hence ether, whose boiling point is 93° F., will not be absorbed so rapidly as chloroform, whose boiling point is 143° F. If, therefore, an anæsthetic could be produced whose boiling point was the same as the normal temperature of the blood, the exact amount absorbed with each inspiration would be eliminated by each expiration. By causing the mixture to be at different degrees above this point, he claims that we can regulate at will the excess which the expiration would not remove, and thus the amount of the anæsthetic retained in the blood. His addition of petroleum ether or benzine to sulphuric ether and chloroform was further to facilitate the formation of a mixture or solution of anæsthetics which would afford a safer means of absorption.

We believe that practically this reasoning is fallacious, because it assumes that these mixtures or solutions constitute a new chemical homogeneous compound which will always be inhaled as one substance in definite chemical proportions, just as a compound salt is one substance when swallowed after solution in water; whereas, the fact is that ether remains ether and chloroform stays chloroform during the inhalation, and that the proportion of either which will be absorbed will depend upon the mode of administration, a tight cone allowing an amount of chloroform to be taken which would be extremely dangerous, while the free admixture with air would so lessen the absorption of ether that its specific effects would be proportionately lessened. Meantime the adoption of benzine is not the adoption of an anæsthetic, for Dr. S. T. Meltzer, in a communication to us on his experiments upon rabbits with petroleum ether, by inhalation through mouth and nose, as well as through a tracheal cannula, says: "Petroleum ether is not a narcotic. If a rabbit was put under deep anæsthesia by ether, and then ether suspended and petroleum ether administered, the lid reflex soon reappeared and the rabbit woke up. The inhalation of pure petroleum ether alone soon brings out a distinct tetanus and opisthotonus, to which the animal soon succumbs if the inhalation be continued. If the inhalation be discontinued at the appearance of the convulsions, the animal survives the tetanus, but this is then followed by a distinct paresis of all the extremities. If ether is given with the petroleum ether, the tetanus movements are suspended, but not so the paralytic after-effects; the rabbit dies of paralysis of the respiratory muscles."

There is, moreover, a physical reason for doubting the manageability of mixed anæsthetics due to the fact that if two agents of different maximum points of evaporation are mixed together, the more volatile of them will increase the evaporation of the other by carrying off more of the less volatile one than if the latter were vaporized by itself. Thus more chloroform would be inhaled if mixed with ether than if it were administered separately.

In addition, in curarized animals this fact was demonstrated physiologically, for when respiration was in abeyance an immediate chloroform effect on the circulation was produced if Schleich or A. C. E. were employed as an anæsthetic, when these solutions were held above the level of the animal; whereas, with pure chloroform by the same method a considerable interval elapsed before the chloroform effect was produced on the heart.

The ether in the mixtures was thus a vehicle for the chloroform.

That Schleich's mixtures have been used in a number of cases without dangerous effects is no evidence that they are safe, for the same may be said of chloroform and of ether the world over. Mixed anæsthetics of any kind might be employed in hundreds of instances without unpleasant results, though actually they were more dangerous than unmixed agents, for with chloroform itself surgeons have published reports of ten thousand administrations of it without one serious accident.

Finally, anæsthol we believe to be a dangerous anæsthetic, causing, as we have clearly shown:

1. Respiratory symptoms, respiratory poisoning due to the ethyl chloride.
2. An aggravated chloroform heart.
3. The renal effects of ether.

Nitrous oxide and oxygen we place as the least dangerous and least deleterious to the kidneys; chloroform nearly as safe in this last regard, and ether the worst of the three. All mixtures we believe dangerous and of no advantage.

The quantity of the anæsthetic administered and the method, likewise the length of the operation, as heretofore remarked, all have a bearing on the question of renal congestion. We have endeavored to demonstrate the safest anæsthetics in this regard, and consider nitrous oxide and oxygen the least deleterious to the kidneys, and chloroform next in order.

Clinically, we have seen renal symptoms or acute uræmia follow the administration both of ether and chloroform, and in several cases death has resulted. Personally I can recall three such cases following ether, and one following chloroform narcosis.*

Lawson Tait believed the dangers of chloroform chiefly immediate and those of ether more remote, renal or pulmonary; that deaths from chloroform occurred chiefly on the operating table, and hence general attention was called to them; but that if a fair estimate was made, the fatal uræmias and pneumonias depending on the ether, if properly credited to it, would reverse the record as it now stands.

Dr. Gerster, I know, is of this opinion from personal experience, and Dr. Brewer I am informed for the same reason now chiefly employs chloroform at the City Hospital.

It is difficult to secure records that have been properly taken, and but recently in the *Lancet* a case of fatal nitrous-oxide anæsthesia is reported, when, in fact, though the patient nearly succumbed to the anæsthetic, yet he was revived and died in a few minutes under chloroform, which was then substituted. Such a case would die under any anæsthetic whatever, and local anæsthesia would probably have been indicated.†

The following would seem to be the most scientific method to observe the actual changes that occur under each anæsthetic:

1. *Examine urine carefully,* and measure same for twenty-four to forty-eight hours before operation; the urea, indican, and chlorides should be noted.

2. Catheterize the patient immediately before the anæsthetic is started. This eliminates residual urine from any cause whatever. I believe the nervous element may prevent the complete voiding of the urine. Examine this specimen.

3. *Catheterize the patient* immediately at the close of the anæsthesia, noting time and nature of operation, quantity of anæsthetic, nature and method of administration, and how borne by patient; measure the urine, and you have the absolute results of the anæsthesia.

Test urine for specific gravity and quantity secreted, also for albumin, sugar, and casts, etc., and also for indican, chlorides, urea, etc. Specific gravity and quantity have been noted at Johns Hopkins.

The following interesting fact I have noted: Indican was increased very markedly by ether, and also was produced markedly if absent before anæsthesia; and if present in a small quantity, this was considerably increased. The same result was produced by chloroform, but was less in quantity than with ether. With nitrous oxide indican was produced or increased, but also less than with ether.

I was able to make these tests on twelve cases of ether narcosis, three of chloroform, and two of nitrous oxide and oxygen.

The comparative effect between chloroform and nitrous oxide was difficult to judge of, on account of the few cases, though the nitrous oxide seemed to produce a trifle less than the chloroform. As regards albumin following the method by catheterism, as above described, in twelve cases of ether I found a trace of albumin in three cases where there was none previous to operation, and in one case a slight increase where it previously existed; no renal complications, however, followed, so far as I could learn. With chloroform, three cases, I found no change. In two cases of nitrous oxide no change in urine after operation, in one case there being no albumin previous to it.

In the other case of nitrous oxide and oxygen there was a trace of albumin before operation and a few casts. After operation the albumin disappeared, the number of casts diminished, and the patient passed seventy-five ounces of urine in the first twenty-four hours after operation, against fifty-two ounces twenty-four hours before.

There was a *special reason* for this—namely, on account of the slight changes in urine. A hypodermoclysis of normal saline solution, six ounces, was given just before the anæsthetic was removed. This procedure in such conditions seems of value, as the result is simple but efficacious. An enema is apt to be voided or objected to by the patient. A convenient region is the lumbar, between the crest of the ilium (posteriorly) and lower border of the ribs, gentle massage being employed.

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* In the report of Roosevelt Hospital for the year 1898, on the surgical division the percentage of deaths from renal complications traced directly to the anæsthetic was 4.4 per cent., in the gynæcological division 9 per cent., and a total percentage in the combined services of 5.5 per cent. These are tabulated in the appendix. Temporary albuminuria, 65.8 per cent. due to ether.

In the year 1897 the same average per cent. in deaths will be found, and investigation of the records of other hospitals, we are convinced, will show also a large percentage from anæsthesia. Sepsis and pneumonias were excluded in the above cases. See Appendix.

† The immediate substitution of chloroform for nitrous oxide is a dangerous procedure, since nitrous oxide causes extreme vascular contraction and chloroform dilatation of the vessels. A sudden alteration of blood pressure and the consequent effect on the heart could readily account for the fatal result. Dr. Bennett is accustomed to administer ether first for a short period between the nitrous oxide and the chloroform. The circulatory changes then occur gradually.

The patient had no renal complications. This method is to be employed when the question of renal (subsequent) complications might occur.

As Dawbarn does with "infusion to prevent shock," so should we with "hypodermoclysis" to minimize in so far as possible the danger of renal complications due to the anæsthetic in those cases where disease of the kidneys already exists or is suspected. This rule should be applied to any anæsthetic. The employment of that anæsthetic least deleterious to the kidneys with the addition of hypodermoclysis at the close of the operation would seem a logical course to pursue.

The question as regards the possible significance of indican as being produced or increased by anæsthesia would seem worthy of further investigation; also as to whether it has any bearing on the gastro-intestinal derangements subsequent to anæsthesia, or to the disturbance of the renal functions, or is of no significance whatsoever. Unfortunately, I was able to investigate a few cases only, and in the human subject. It would be well to test many cases clinically with the different anæsthetics, and also to carry on further physiological experiments with animals. That indican, like albumin, was produced most markedly by ether, and so on again, like albumin, on the descending scale, with chloroform and nitrous oxide, would seem somewhat significant. Possibly it may be due merely to the general interference with the intestinal functions, the digestive secretions included; and in regard to this question I should be especially pleased to hear the opinion of Dr. Meltzer. Unquestionably, investigation of a thorough character would be of scientific interest.

Having abused your patience and appropriated a considerable period of your valuable time, I shall bring this paper to a final close, and while doing so I wish to assure you that my remarks on surgeons and their relations to anæsthesia were of a most general character; for, happily, within the last two years the skilled anæsthetist is becoming a prominent factor, and instruction is being given in anæsthesia in some of our best hospitals to the hospital interne. This is as it should be, and I have merely wished to emphasize, by "comparison of the old methods with the new," the desirability that the medical profession at large should bestir itself. The "sins of omission and commission" that I have described I have myself been guilty of, I must freely acknowledge, and I believe that you will all agree with me that through "errors," and, mark you! the "honest confession" of the same, and the endeavor thereafter to avoid them, we reach at last, "the truth," which is our goal.

APPENDIX.

(A) Deaths from renal complications traceable directly to the anæsthetic (ether). Prepared by Dr. Creevey, house surgeon, from the table of deaths (surgical division, and also gynæcological division) in the *Hospital Report of Roosevelt Hospital*, 1898.

(B) Table prepared by Dr. Creevey, house surgeon, showing the percentage of cases, operated with ether as the anæsthetic, in which albuminuria was produced. This covers a period of about two months at Roosevelt Hospital, fall of 1898. By courtesy of Dr. Charles McBurney, attending surgeon.

Deaths due to Renal Complications caused by the Anæsthetic—Ether. (From the *Report of Roosevelt Hospital for the Year 1898*—Table of Deaths following Operation.)—Total deaths of patients operated on in surgical division, 68. The anæsthetic (ether) the cause of the exacerbation of renal symptoms and resulting death. Diagnosis: Acute appendicitis; suppressed urine.

This case reported by the house surgeon as follows, being abstracted from the history of patient filed in the records as acute appendicitis; suppression of urine.

CASE I.—Mary C. T., aged fifty years.

Diagnosis: Acute appendicitis; suppression of urine.

Urinary analysis, December 5, 1898 (before etherization): Amber; acid; very faint trace of albumin; no sugar; specific gravity, 1.026; epithelial cells, pus, and granular casts.

Operation, December 5, 1898.—Cœliotomy and drainage; ether employed.

Urinary analysis, December 6, 1898 (first specimen after etherization): Amber; acid; trace of albumin; no sugar; specific gravity, too little urine to secure it. Epithelial cells, mucus, triple phosphates. Died forty-two hours after operation, having excreted in all this time only eight ounces of urine, although infused twice, each time a thousand cubic centimetres of normal saline solution. To the anæsthetic as a chief factor the exacerbation of renal symptoms and consequent death were imputed, and justly so.

See page 107 of *Hospital Report*, 1898. Hernia, inguinal, strangulated; intestinal paresis; suppression of urine.

CASE II.—A. H., aged twenty years (ether the anæsthetic). Urinary analysis, March 6, 1898 (before operation): Yellow; acid; no albumin; no sugar, specific gravity, 1.024. Microscope negative. Urine normal.

Operation.—Herniotomy and drainage, March 6, 1898.

Urinary analysis, March 7, 1898: Yellow; acid; ten per cent. albumin; no sugar; specific gravity, 1.016. Microscope: Hyaline and granular casts. Died in forty-eight hours, intestinal paresis and suppression of urine following operation.

CASE III.—Edward McD., aged thirty-four years, page 107. Diagnosis: Perinephritic abscess; uræmia. Urinary analysis, November 19, 1898 (before operation): Yellow; acid; no albumin; no sugar; specific gravity, 1.031. Microscopic: Urates.

Operation: Lumbar incision and drainage, November 19, 1898. Urinary analysis, November 21, 1898: Amber; acid; faint trace of albumin; no sugar; specific gravity, 1.019; hyaline casts. Died on ninth day of uræmia.

On the surgical division, therefore, of sixty-eight deaths following operation, three deaths have been traced to the anæsthetic (ether) as the cause, and that, too, by its deleterious action on the kidneys.

In Case I there were evidences of slight renal trouble before operation in the specimens examined on the day of operation. Immediately after the operation the albumin increased slightly, but the most significant feature is the fact that the first urine passed after operation was so small in quantity that sufficient could not be secured to obtain the specific gravity, and this condition rapidly went on to acute suppression, so that in forty-two hours the patient died from the suppression, only eight ounces of urine being secreted in this period of time, in spite of two infusions having been given. It seems impossible for a "physician of average intelligence" to impute this result to anything but the effect of the anæsthetic, as causing an exacerbation of previous renal trouble, especially as the operator was a skillful surgeon and all due precautions were taken. Any other possible view would be a slight to his recognized ability.

In Case II (ether operation) the urinary analysis was "normal" before operation (the same day). An operation for "strangulated hernia" was performed.

Urinary analysis the day following showed (by volume) ten per cent. of albumin and hyaline and granular casts.

In forty-eight hours after operation the patient died of suppression of urine and intestinal paresis. This case again can not be questioned.

In Case III the urinary analysis was "normal" before operation (the same day), though the patient suffered from "perinephritic abscess." The element of pus, one of the "loopholes" by which some surgeons endeavor to escape placing the responsibility on the anæsthetic, here existed; but, unfortunately for these gentlemen, the kidneys were evidently as yet in good condition; and, furthermore, the free lumbar incision and drainage, which were performed the same day of the urinary analysis, would, they must admit, diminish the chance of infection to the kidneys, on account of the ready exit afforded to the pus. Nevertheless, albumin appeared after operation. On the second day a faint trace of albumin and hyaline casts were found, and the patient steadily became worse, and died on the ninth day of uræmia. The house surgeon (Dr. Creevey) informs me that the drainage, etc., was perfect, and the cause of death was unquestionably uræmia as a result of the anæsthetic.

NOTE.—There were several other cases in which the house surgeon imputed to the anæsthetic the subsequent renal difficulty, and believed it to be a factor in the death of the patient. These cases were thrown out of our record as doubtful. However, three cases of death out of sixty-eight fatal cases gives 4.4 per cent of deaths, in which the anæsthetic (ether) is a factor, or accessory factor, due to its effect on the kidneys.

Gynæcological Division.—Of deaths following operation, twenty-two are reported. Of these there are two deaths imputed to renal complications due to the anæsthetic (ether) as a factor or an accessory factor.

These cases were tabulated for me by Dr. Creevey (house surgeon).

CASE I.—Franciska G., aged forty-eight years.

Diagnosis.—Fibromyomata uteri; chronic nephritis; suppression of urine. Urinary analysis, July 5, 1898 (before operation): Acid; specific gravity, 1.007; albumin, trace; no sugar. Microscope: Pus and hyaline casts.

Operation.—Complete hysterectomy, July 6, 1898 (ether). Urinary analysis, July 9, 1898: Acid; specific gravity, 1.010; albumin, five per cent. by volume; no sugar; hyaline casts. Patient steadily became worse.

July 16th.—Only two ounces of urine passed in twenty-four hours.

17th.—Died.

Evidently an acute exacerbation of a chronic nephritis, and only to be traced by the history to the anæsthetic.

NOTE.—The following case is of special significance, as it demonstrates that a complete diagnosis and the chief factor of death are not always written down in the history heading.

CASE II.—Theresa S.

Diagnosis.—Fibromyomata uteri; broncho-pneumonia. Urinary analysis, July 12, 1898 (before ether): Acid; specific gravity, 1.030; no albumin; no sugar. Microscope: Calcium oxalate.

Operation.—On the same day, July 12, 1898, complete hysterectomy. Urinary analysis, July 14, 1898: Acid; specific gravity, 1.024; albumin, five per cent. by volume; no sugar. Microscope: Granular casts; red cells. Died on the third day after operation.

Broncho-pneumonia was noted in the diagnosis, but the severe renal complication was not. This was doubtless through inadvertence. Yet certainly the histories should be carefully searched to secure accurate results, when such omissions can occur. In effect, therefore, on the gynæcological division, in Case I the patient died of acute, renal complications, an exacerbation of a chronic nephritis, as shown by the large increase in albumin, from a trace before operation to five per cent. by volume on the third day after, and the steady continuance of the acute condition to a practically complete suppression —only two ounces on the tenth day and death on the eleventh day.

The operation (anæsthetic) was clearly a contributory factor.

Case II. In this case the renal complication was not set down in the diagnosis-heading and history of the patient, and this is a *serious omission;* since, unless the histories had been carefully investigated by Dr. Creevey, the percentage of deaths from renal complications due to the anæsthetic would have been reduced one half.

The history shows *normal urine* on the day of operation.

Two days later there was five per cent. of albumin, granular casts, and *blood* in the urine—indisputably *an acute congestion of the kidney* on *the second* day. A broncho-pneumonia developed after operation. This was noted in the history heading, but not the kidney complication, as heretofore observed.

A case of an adult, with normal urine before operation, whose urine on the second day after operation shows five per cent. by volume of albumin and blood and casts, who has a broncho-pneumonia and dies on the third day following operation from suppression of urine, would seem rather a good illustration of the effects of an anæsthetic on the kidneys.

The average clinician would, we believe, state the cause of death to be "acute congestion of the kidneys" and "pulmonary œdema."

We have all seen in acute renal attacks, or in acute exacerbations of an old chronic nephritis, cases in which the pulmonary œdema was not general but circumscribed; and in effect such a condition gives us the physical signs of a broncho-pneumonia.

It seems impossible to attribute this death to any other cause than to the effect of the anæsthetic (ether) upon the kidneys. It further demonstrates that in the study of statistics mere compilation from history headings is insufficient; but that a careful study of each history is necessary, since such important omissions can occur.

We trust we may be able to therefore demonstrate to you by these results the necessity for adopting a uniform and, we believe, a scientific method for investigating the effects of anæsthetics on the renal function in all cases in the hospitals you attend. Thus on the gynæcological division of Roosevelt Hospital out of twenty-two deaths that followed operation two are fairly attributed to the deleterious effects on the kidneys produced by the anæsthetic (ether), giving us nine per cent. as a death-rate from this cause.

To Tabulate.

Total deaths following operation.	Of these, due to the kidneys, the anæsthetic (ether) the factor.
68 (surgical).............	3 (surgical), or 4.4 per cent.
22 (gynæcological)........	2 (gynæcological), or 9 per cent.
Total, 90	5, or 5.5 per cent.

The general average, 5.5 per cent., of deaths following operation, and due to the effect of the anæsthetic (ether) producing fatal uræmia through its specific action on the kidneys, is certainly significant. This occurs at Roosevelt Hospital, where there are skilled surgeons, most modern operating rooms—in fact, they are exceptionally fine—and with all possible precautions. Special care is observed as to avoiding exposure of the patient and in the administration of anæsthesia; in fact, an expert anæsthetist is at times employed, exclusive of the regular staff, and in every way care is observed. For example, on the gynæcological service, where the percentage (nine per cent.) from the anæsthetic (ether) as a factor in the fatal uræmias existed in the year 1898 just passed, one can see all precautions taken, the limbs covered with specially made flannel and rubber-coated stockings to avoid wetting or chilling the patient, rapid and perfect technique, and the very avoidance of "lectures" during the operation, as were previously alluded to. Yet we have the figures, and the records are open to inspection. Who can hereafter deny the influence of the anæsthetic in the production of renal symptoms with a resulting fatal issue?

Effects of Ether on the Kidneys.

Statistics gathered from cases operated on at Roosevelt Hospital between October 24, 1898, and December 31, 1898, by Dr. Creevey, house surgeon. Reported through his courtesy by permission of Dr. Charles McBurney, attending surgeon.

	Cases.	Per cent.
No albumin in urine before etherization; trace or more after................................	58	59.8 —
No albumin in urine before etherization and none after................................	18	18.5 +
Some albumin in urine before etherization and no change after................................	11	11.4 —
Some albumin in urine before etherization and increase after................................	6	6.1 —
Some albumin in urine before etherization and decrease after................................	2*	2.1 —
Some albumin in urine after etherization and none after................................	2	2.1 — 2.1 —
	97	100

* Decrease in one case due to removal of pus kidney.

NOTE.—Minus sign after per cent. means minute fraction less, as 59.8 — per cent. = 59.799 per cent.; plus sign, the opposite.

Total cases of albuminuria due to etherization, 65.8 per cent. in 97 cases in which ether was administered. Dr. Robert Abbe reports that in 1,500 cases of etherization in St. Luke's Hospital about fifty per cent were followed by albuminuria. He believes this condition to be transitory. Since the quantity of the anæsthetic and the method of administration have a bearing on the effects produced on the kidneys, the choice of the proper cone would be of importance. The old method of the towel and newspaper should be abolished, though it is still employed to a greater or less degree in many of our hospitals. A scientific inhaler, employing the minimum quantity of the anæsthetic to produce the required anæsthesia, should be used, such a one as Ormsby's or Dawbarn's, a recent improvement. The remarks made above apply to ether as used by these methods.

THE NEW YORK ACADEMY OF MEDICINE'S DISCUSSION ON ANÆSTHETICS.*

By W. H. THOMSON, M. D., LL. D.

THE question of the comparative safety of the different anæsthetics is much more uncertain than the results on the operating table itself would seem to show. The rapid and sometimes almost instantaneous deaths which are reported nearly every week in the English medical journals as following upon the administration of chloroform put that anæsthetic at a great disadvantage in comparison with ether, for nothing can surpass such catastrophes in their terrifying suddenness. But if it can be argued that deaths follow upon the administration of ether quite as often, but only more slowly than after chloroform, the question then changes to a consideration of the specific derangements of vital functions caused by these anæsthetics respectively, and not until this is fully done can they properly be compared as regards safety.

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* Being, with additions, the remarks made by the president.

The experimental researches originally made by myself and Dr. Kemp on the effect of ether upon the circulation of the kidneys seem to demonstrate that ether inhalation can cause in healthy kidneys acute renal suppression as complete as in scarlatinal nephritis. All the stages, beginning with oliguria, then albuminuria, then hæmaturia, and lastly stoppage of secretion, developed with constant regularity according to the amount administered and the duration of the anæsthesia. Therefore I can not see how we can expect to escape the occurrence of complications due to this specific action of ether upon the kidneys in many patients whose kidneys were not healthy before the operation. Such persons are not apt to die upon the table, as so many do with chloroform, for fatal renal derangements do not often act in that fashion. Pulmonary œdema with bronchial effusion and aspiration pneumonia are much more likely to occur, and may take some days to run their fatal course. That such accidents are caused not infrequently by ether anæsthesia I have no doubt whatever. Hence I regard that chronic renal disease, or the presence of any of the systemic signs of renal inadequacy, rigid arteries, high-tension pulse, and dilated right heart with chronic bronchitis, are all contraindications to the use of ether, and if any general anæsthetic has then to be employed, it should be chloroform instead.

The difficulty in deciding about chloroform is that in spite of the great amount of scientific inquiry on this subject no satisfactory explanation which will cover all cases of fatality by it has yet been reached. In our own experiments the only result was a uniform depressant action upon the heart, as indicated by the carotid tracings. But that was in no way different from the effects of other cardiac depressants, whereas when chloroform kills it does so in ways that seem very special and by no means uniform. Sometimes in many well-recorded instances in the human subject the heart stops beating first and sometimes the respiration first, and these respective cessations are both so marked and prolonged that there can be no mistake that at times chloroform is a pure cardiac and at others a pure respiratory paralyzer. But in neither case does chloroform act invariably in the same manner. Thus, in cases where the respiration ceases first, we have Richardson's epileptiform syncope, where a tetanic rigidity of the respiratory muscles occurring before general muscular relaxation causes interference with the pulmonary circulation with venous engorgement, and lastly stoppage of the heart. Or, secondly, after general muscular relaxation has developed, death sometimes occurs suddenly from stoppage of the breathing, while the heart continues to beat. On the other hand, there are those more common cases where, after a few whiffs have been inhaled, the patient turns deathly pale and the heart stops as if it were pierced. Or, again, Dr. Lauder Brunton explains some cases of death from chloroform during operation as due to imperfect anæsthesia failing to prevent the reflex effect of the shock of the operation while the anæsthetic has been sufficient to depress the heart itself. These different results, with the different hypotheses to explain them, serve only to show that with all its advantages chloroform can not be termed a safe anæsthetic, except in certain functional conditions of the nervous system. We say this simply because it is the verdict of experience on a great scale, and nothing but experience would prove this, for it is experience without any explanation. Thus chloroform has been administered in hundreds of thousands of cases in military surgery the world over without an accident. Almost the same thing can be said of its administration to women during labor, at least so far as the heart and respiration are concerned. But given before the heart is excited by the battlefield or by parturition, as when a patient dreads the trivial extraction of a tooth, and it may kill at once. I know of only one condition in ordinary medical practice in which I would feel quite easy with chloroform, and that is when a regular but high-tension pulse is present. A regular high-tension pulse, among other things, means a heart roused to work, and which will not easily be depressed, even though profound coma and convulsions are present. A weak, compressible pulse, on the other hand, decidedly contraindicates chloroform, especially in patients deficient in "nerve." Here we may add that, in general, the contraindications to chloroform furnish indications for ether. In our tracings ether as uniformly showed a stimulant action upon the heart as chloroform showed the opposite. A small, weak, compressible pulse grows fuller and stronger under ether. On the other hand, a habitually high-tension pulse is suggestive of kidney derangement from one cause or another, and ether will but add to that derangement and its results.

The fact that all agents or mixtures which produce anæsthesia by inducing narcosis are in some cases very dangerous imparts great interest to the recent improvements in the methods for producing local analgesia which have been employed lately with complete success even in some major operations. It can not be claimed for them that they can supersede chloroform or ether for most operations, but, as I have seen the procedure tried upon private patients of my own by my surgical assistant, Dr. Kemp, in excision of an exceptionally serious carbuncle on the back of the neck in a patient with damaged kidneys, also a large sebaceous cyst on the shoulder, and in operating upon a tuberculous elbow joint, without the slightest complaint of pain on the part of the patients, it is my opinion that no surgeon can afford now to neglect learning the technique or details of this method. One case so operated upon is quite sufficient to substantiate this statement. The patient was sixty-six years of age, greatly broken down in health, with an abscess in the kidney consecutive to cystitis and enlarged prostate. Lumbar colotomy was performed with an incision four inches in length and the kidney incised, the pus let out, and perfect recovery followed without the patient complaining of any pain either during or after the operation, which lasted an hour and a quarter. Here the general condition of the man and the state of his kidneys contraindicated a general anæsthetic of any kind, and particularly ether.

To insure success by this method, however, the following details should be strictly followed:

1. An elastic bandage should be applied whenever possible, even about the scalp, as Dr. Leonard Corning long ago showed its promotion of the analgetic effect of cocaine, but care should be taken not to apply it too tightly, and also that it be loosened gradually after the operation is well over.

2. The cocaine or eucaine to be employed should be dissolved in a saline solution of a definite strength. This is an important part, for infiltration by pure water, on the one hand, or by too dense a saline fluid on the other, produces much pain by deranging, though in opposite ways, the normal osmosis of fluids in the interstitial spaces. Dr. Braun, of Leipsic, has worked out the proper strength of saline solutions for this purpose and puts it at 0.8 to 0.9 per cent. of chloride of sodium, which should be at the body temperature when injected, and not cold. The original Schleich formula was too weak in its proportion of cocaine and required too much fluid, so as to cause an artificial œdema, while the addition in it of morphine does not add anything to the analgetic effect. A standard solution instead may be made of two grains of cocaine hydrochlorate in half an ounce of sterilized 0.9-per-cent. salt solution, of which one drachm will contain half a grain of cocaine. More than this amount of cocaine should not be used at any one time, and much less of it will be amply sufficient for most advisable operations. Eucaine has some decided advantages over cocaine in being only one fourth as toxic, though quite equal to it in analgetic properties, while its solutions can be sterilized by boiling, which destroys cocaine. The best strength of the solution of eucaine is one per cent., and, as it is so much less toxic than cocaine, more of it can be used.

3. The skin should be benumbed for the initial insertion of the needle by the cold of the ether or ethyl-chloride spray, or by ice, and then a ring of infiltration should first be made around the part to be incised by injecting at the outer limit until a wheal of infiltrated skin is raised; then a second wheal is made in the same manner by the needle being introduced at the edge, but within the circumference, of the first wheal. By this means the prick of the needle will not be felt, and the infiltration can thus be carried around the whole of the seat of the operation. Lastly, the line of the proposed incision is infiltrated and the cutting begun. On going further a weaker solution may precede the deeper dissection, and be resorted to whenever the patient begins to feel pain.

Now this process requires time, and unless that is given failure to produce complete analgesia is certain. Such operations, therefore, should not be done at clinics, for the operator is sure then to be too much in a hurry. But with the precautions mentioned such operations as radical cures of hernia, abdominal laparotomies, etc., have been performed without any suffering whatever.

The contraindications of such operations are where the œdema caused by the infiltrations would interfere with the subsequent coaptation of the parts, as in plastic operations, also in most operations about the eyes, nose, or mouth, or in young children and in nervous patients, who might faint at the sight of blood. But in so many cases can this procedure be successfully employed without incurring any risk whatever that it is fully worthy to be classed among the important advances of modern surgery.

A CASE OF HYSTERICAL LARYNX.*

By F. E. HOPKINS, M.D.,
SPRINGFIELD, MASS.

I am led to present this case because it possesses some elements of entertainment, and it will not be amiss in so serious a programme to introduce an item of diversion. The case is also a rare one.

Miss V., fifteen years of age, a large, rapidly growing, anæmic, nervous girl, but not appearing like a hysterical subject. She was ambitious as a student and took good rank in school. She was brought to my office September 25, 1897, because of a peculiar, not to say terrifying, spasm of the larynx. Aside from the symptoms connected with the larynx there were no hysterical manifestations. At the time of the school examinations of the preceding June she began to suffer from an attack of pertussis. The whoop in these paroxysms was much more marked than usual, and this increased in intensity so that by the middle of August the ordinary whoop was replaced by a high-pitched, piercing sound produced by strong inspiration with the vocal cords tense. It was a squeal—the squeal of a sizable and badly hurt pig. The cough ceased, but the squeal remained, and ultimately became both inspiratory and expiratory. The paroxysms were preceded by a sense of tickling and irritation in the throat, which caused first a slight cough, then followed the terrifying sounds. These occurred many times during the day, though but rarely at night. Each paroxysm was followed by an interval of perfect rest. Examination revealed no local excuse for such explosions. There was a small mass of adenoids and some lymphoid hypertrophy at the base of the tongue. It seemed possible that the latter might induce some congestion of the larynx, but I regarded the case as hysterical, gave a favorable prognosis within the patient's hearing, and said if she did not improve we could burn the redundant tissue at the base of the tongue. The use of the laryngoscope, the favorable prognosis, or the promise of the hot electrode made a proper impression, for the paroxysms ceased, and for a few weeks did not return. November 6th she was brought back because of a recurrence of the spasmodic seizures. The galvano-cautery was applied to the base of the tongue, and this also was followed by an interval of improvement. Paroxysms began again suddenly and severely on March 1, 1898. So violent and continuous were they at times, the family physician informed me, that general anæsthesia had been resorted to on three occasions, all other means having failed to control the seizures. I can, perhaps, give you no more convincing proof of the horror-producing effect of these unearthly sounds than to say that they frightened a traveling drug vender from my waiting room.

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* Read before the American Laryngological Association at its twenty-first annual congress.

On March 18th she was taken to the New York Post-graduate Hospital, where she came under the care of Dr. G. M. Hammond. He considered the case as probably hysterical; yet, because of the absence of the stigmata of hysteria, the sudden onset and termination of the symptoms, and the facts that the paroxysms were always limited to the same set of muscles, and that there was always a distinct interval of rest between the seizures, the case resembled one of convulsive tic, and he prescribed fluid extract of conium in increasing doses, which she took up to fifty minims three times a day together with morphine sufficient to keep her from completely depopulating the ward. She remained in the hospital but a few weeks, though continuing the treatment for four months, utterly without avail. During the later part of this period the family physician advised spraying the throat with cocaine solution, and this for a time appeared to shorten the attacks. On September 30th she was brought to my office, and while there had several violent seizures, which quite demoralized business for the time. Determined to give the larynx as well as the community a rest, I intubated, and though the tube—a medium-sized adult tube—was retained less than an hour, the result was indeed a happy one. It seemed just the suggestion needed, for there has been no recurrence since, and the patient's general health has greatly improved.

RECURRENCE OF THE TONSIL AFTER EXCISION.*

By F. E. HOPKINS, M. D.,

SPRINGFIELD, MASS.

No monograph has appeared upon the subject of recurrence of the tonsil after excision, and what I have to offer may perhaps be regarded as curious and interesting rather than as possessing practical value; yet I present it for what it is worth. I am the more inclined to bring the subject to your attention since it is one on which far less has been said by laryngologists than by others. The former, operating usually under general anæsthesia and possessing the skill which goes with constant practice, do better, more thorough work; hence the possibility of recurrence with them is reduced to a minimum. The subject has attracted little discussion, probably for the sufficient reason that few cases have been observed. A recent case coming under my notice has led me to make some investigation, and I present the subject to you with the hope and expectation that the discussion will bring out suggestions which will help to make recurrence even more rare, as well as to make clear the conditions under which it might be looked for.

My own case came to me as a surprise, since a considerable clinical experience and the silence of most text-books, as well as of current papers, had led me to accept the belief that recurrence in simple hypertrophy did not take place. A careful search of the literature of the subject discloses several cases, and one meets the statement from the laity that recurrence is at least occasionally to be expected. I have tried to trace some of these statements to the source of their authority, with but little success; yet the fact that they are made proves the existence of the impression, and it would be a satisfaction to learn on what basis of truth this rests.

I recently operated on a boy of six whose mother remarked that in childhood she had had large tonsils, but her mother would not allow their excision because of personal experience, she herself having been operated upon for removal of the tonsils, which had, however, recurred. This and similar statements can carry little weight, for one has no idea of the thoroughness or lack of it in operation. Some years ago it was common among general practitioners to speak of slicing off a portion of the tonsil, and one still occasionally hears the suggestion from the older men. Such imperfect work may often have been done and passed for excision. I will report my own case, following it with others which I have gathered.

Miss M., thirteen years old, American, of good family history, and living under conditions which assured hygienic surroundings. On December 28, 1896, the tonsils and some adenoids were removed under ether. Counter pressure was made over each tonsil upon the application of the guillotine; the excision was considered thorough, and examination three weeks later justified this opinion. The child's general health was not of the best, and previous to the operation she had suffered repeated attacks of severe amygdalitis. After operation attacks of a similar character continued, though they were of less severity. On April 27, 1897, four months after the removal of the tonsils, I saw the patient while she was suffering from what appeared to be an acute amygdalitis, and the left tonsil was considerably enlarged. This was removed on June 1, 1897, with the guillotine. To the eye it seemed like the usual hypertrophied tonsil in form and size. There were, however, cicatrices caused by the earlier operation. Dr. Wright examined the specimen and pronounced it simple hypertrophy.

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* Read before the American Laryngological Association at its twenty-first annual congress.

When I was gathering material for a paper upon recurrence of lymphoid tissue in the nasopharynx, Dr. Emil Mayer kindly gave me some notes and incidentally mentioned a case of recurrence of the tonsils which came under his notice. I do not know that microscopical examination was made in this case, nor that the patient was free from specific taint.

The *Journal of Laryngology, Rhinology, and Otology* for August, 1898, makes mention of a case of recurrence in a young woman. The patient's history showed that she was tuberculous and had suffered from specific infection.

Burnett,* speaking of excision of the tonsil as a remedy for the relief of deafness, says: "I am furthermore convinced of the futility of the excision of tonsils for hardness of hearing, because the largest tonsils I have ever seen were the successors of excised ones. They might almost be regarded as recidives of a morbid growth."

John Nottingham,† having related a case of amygdalotomy for deafness, states that "there has been no new growth on the side where the operation was practised." Further on he says: "Unfavorable occurrences may follow such an operation (amygdalotomy) if the cases for its practice be not judiciously selected. One is a second or new growth of the part operated upon. A patient may have his tonsil excised, and in less than twelve months' time the tumor on the side of the throat may be found prominent, spongy-looking, and as large, if not larger, than before. This seldom occurs except in patients of strumous constitution, and may, in some instances, be averted by the employment of the solid nitrate of silver applied daily for some weeks after the operation."

J. Mason Warren,‡ in his paper on excision of the tonsils, read before the Boston Society for Medical Improvement, does not mention the subject of recurrence, but in the discussion which followed his paper he was asked whether the tonsil had ever been reproduced after excision. He replied that he had been obliged to repeat the operation four or five times in about five hundred cases. Homans, in discussing the above paper, said he had two cases in which the operation had to be repeated. In one of these the operation, while thorough at first, required to be repeated five years later. In the other case, in which both tonsils were removed, one was now again in condition to require removal.

Stapleton,# in the discussion of a paper by Martin on amputation of the tonsil, said he had known of cases where it was necessary to remove the tonsil more than once. It might be urged that removal had not been thorough, but in his experience the cases were examples of pure reproduction.

Ruppaner,* in enumerating popular objections to cutting, includes this one; that "the tonsils after being cut grow again." He remarks: "Strange as it may seem, this claim is often made on the authority of the family physician."

W. H. Daly says: † "As to the question of the liability to grow again, the answer can be included in this remark: that with every badly treated or neglected cold affecting the throat there will be some tendency for the tonsils to increase in size again; but this tendency is not marked by any means, and may be prevented altogether with ordinary care and proper treatment by local applications."

W. Porter says: ‡ "It has been urged as an objection that there may be recurrence of the hypertrophy. In over a hundred and fifty cases I have had to do a second operation but twice, and in one of these cases the operation had not been thorough. As hypertrophy is largely due to retained secretions, it seems reasonable to believe that when the crypts are removed hypertrophy can not take place."

J. G. Carpenter,# in a paper read before the American Rhinological Society on the abuse of uvulotomy and amygdalotomy, speaks of the common practice of removal of the tonsils, and says that as tonsillar disease is kept up by nasopharyngeal catarrh, hypertrophied tonsils will enlarge again and again after removal until this catarrh is cured.

Behrens,|| in the course of an article on one hundred and twenty-seven amygdalotomies, says: "As to the common pretext that tonsils operated upon again hypertrophy, this is not valid with physicians of experience. Even if they do return, it is no argument against operating."

Lennox Browne says: ^ "Very rarely indeed is there a redevelopment of the hypertrophy; but as such a circumstance is not outside of my experience, I aways endeavor to remove as much of the gland as may be pressed into the guillotine." The above would appear to be the only mention of the subject of recurrence of hypertrophy in any standard work which includes diseases of the tonsils.

The following controversy between B., an anonymous contributor to the *Medical Times and Gazette,*

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* *Diseases of the Ear*, 1884, p. 40.

† *Diseases of the Ear*, London, 1857, p. 351.

‡ *Boston Medical and Surgical Journal*, 1857, vol. lvi.

# *Dublin Medical Press*, April 19, 1863.

* On the Removal of Tonsils without Cutting, with Report of One Hundred and Twenty-three Cases. *Medical and Surgical Reporter*, Philadelphia, 1869, vol. xxi, p. 311.

† *Medical Record*, February 10, 1883. Paper entitled Some Questions relating to Tonsillitis.

‡ *Weekly Medical Review*, 1883, vol. vii, p. 55. Paper on Tonsillotomy.

# Gaillard's *Medical Journal*, 1888, vol. xlvii, p. 212.

|| *Western Medical Reporter*, January, 1889.

^ *Diseases of the Throat*, third edition, p. 255.

and Dr. Mackenzie and Dr. Semon bears upon the subject. In this journal for March 8, 1884, B., evidently a general practitioner, sent a letter to the editor on chronic amygdalitis and amygdalotomy. He asks: "Is amygdalotomy a complete cure for amygdalitis?" and answers it as follows: "The experience of those patients, probably well known to all physicians and surgeons, who have had their tonsils taken out again and again would return a negative answer. If by the ordinary operation we could insure the completeness of the work and enucleate the whole gland, there would probably be no recurrence." The writer seeks to blame the amygdalotome for the lack of thorough removal. He then says: "If a tendency to hypertrophy exists it is sure to manifest itself even after an almost complete obliteration of the gland." He concludes by saying that "the feebly hypertrophied stumps rise in judgment upon the mistaken zeal of the operator." Mackenzie, in reply, through a letter to the editor of the same journal, March 15, 1884, writes as follows: "B. is evidently possessed of the idea that tonsils grow again and again after removal. This view is actively opposed to my experience. Among the many hundreds of cases in which I have operated, I recall but two in which there was any sign of subsequent enlargement. In one of these, I believe that I performed the operation incompletely, perhaps insufficiently. In the other a severe attack of inflammation, occurring long after the tonsils were removed, left a little enlargement behind." B. made a short rejoinder in the same number of the *Times and Gazette*, accepting Mackenzie's dictum.

F. Semon, in the course of an article on The Throat Department of St. Thomas's Hospital, 1883, published in vol. xiii of the hospital reports, asks, "Will not the enlarged tonsil grow again?" and continues as follows: "An affirmative reply has been recently given to this question in the *Medical Times and Gazette* by an anonymous writer, B." He then quotes from this article and proceeds: "Could this fact of recurrence be readily established, that after properly performed tonsillotomy in a large number of cases the glands enlarge again, the performance of the operation might be objected to. In B.'s case, however, the premises are weak." Semon quotes Mackenzie's reply to B.'s letter as being a complete refutation of B.'s views. He then says that he very strongly suspects that the recurrence of which B. speaks was merely insufficient removal. Out of many hundred cases Semon saw but one considerable re-enlargement, and thinks that the struggles of the child may have interfered with the completeness of the operation. He admits that what B. calls a "feeble hypertrophy of the stump" may take place at times. He concludes with Mackenzie that the recurrence of any considerable enlargement is by no means as frequent as B. would fain make us believe, and that when it does occur it is almost always due to an insufficient removal in the first operation.

The foregoing represents all that could be found in the library of the New York Academy of Medicine and of the surgeon-general's office at Washington. It is seen that a wide variety of opinion is represented as to the frequency and cause of recurrence, as well as of its prevention. We can not accept all the conclusions of the various writers, but the facts observed are none the less of interest to us. It is noticeable that few cases are alluded to by laryngologists, and that most of the references are of cases which were published some years ago. The inference is that under general anæsthesia, now so commonly employed, a more thorough operation is performed and recurrences must be even more rare than formerly.

It would appear that among the causes of recurrence, aside from imperfect operation, are a tuberculous or specific dyscrasia and an acute inflammation of the stump. It would naturally be supposed that this acute inflammation of the stump must take place soon after operation in order to result in recrudescence of the tonsils, as occurred in my own case; yet Mackenzie mentions a recurrence following acute inflammation long after operation. My purpose is served in simply calling your attention to the subject, and I refrain from more extended comment.

DRY HEAT OF HIGH DEGREE AS A THERAPEUTIC AGENT.

By C. E. SKINNER, M.D.,
NEW HAVEN, CONN.

(*Continued from page 780.*)

In malarial disease we always find a marked impairment of the liver. Now, an impaired liver will throw into the blood current more nerve-depressing products of faulty metabolism than any other organ of the body except the impaired kidney. When the steel has enveloped the wood, then we are brought to bay by a problem consisting of three parts: first, the parasite safely sconced in the blood-corpuscle; second, the nervous debility resulting in metabolic impairment which strangles assimilation; and, third, the impaired liver, the faulty metabolic emanations from which, in company with the ptomaines constantly being produced by the micro-organisms, maintain the nervous debility and its own impairment.

The first step, then, is to effect the regeneration of the liver in whole or in part, at the same time maintaining an adequate saturation of the blood by quinine. If we can regenerate it only in part, then the nervous system will be partly relieved, and through it the metabolic activity partly reestablished, and the red blood-corpuscles will be able to absorb a little more of the quinine and get a little better grip upon their antagonists. Calomel is a poison which exercises one of its elective tissue affinities upon the liver cells, and theoretically would seem to be a good agent for this purpose. Practically, when properly given, it rarely disappoints us.

Now, if, in addition to removing a portion of one of the factors which is maintaining nerve depression, we can also directly stimulate the nervous system to aid in its own regeneration, we shall have given the overwhelmed metabolic functions a good big pull toward the surface, and thereby have increased by a vast deal the power of the red corpuscle to wield its weapon over the parasite. Strychnine is a drug which stimulates nerve tissue *en masse,* and, as the welfare of the whole increases the welfare of all the parts, the administration of this remedy in addition to the cholagogue will in most cases enable the red blood-corpuscle to metabolize the quinine sufficiently well and in sufficient quantities to effect the destruction of the parasite, and with the consequent cessation of ptomaine production the nervous system is able to regain its tone and recovery follows.

Not always, however. The impairment of metabolism is occasionally so great that arsenic, a drug which stimulates directly primordial protoplasm itself, will have to be resorted to before the corpuscles can develop enough assimilative energy to use effectively the instrument of their salvation. Although quinine occasionally needs the aid of all these contributing agents in curing malaria, yet no one thinks of attacking its claims to specificness in this disease, and this is as it should be. The fault is not with the remedy, but with the conditions under which it is required to act.

In rheumatism, as in malarial disease, we have a special *materies morbi* which elects special tissues as most suitable for its habitat, and these are the white fibrous structures about the joints and heart, and the muscles. The ptomaines in this disease, however, do not exert anything like the same profoundly noxious depression upon the general nerve centres, and hence the general bodily metabolism is not nearly so badly impaired. The local metabolism in the tissues about the lesion suffers, however, and occasionally suffers so profoundly that medicine, however specific against the rheumatic micro-organism, can not be assimilated by the cells in which it has established its abode in such a manner and quantity as to effect its destruction; hence a large number of cases exist in which the salicyl compounds have been inefficient. This is where the powers of hot air are manifested.

As we have seen, this is also the case in malarial disease, where quinine alone sometimes fails. In this latter disease, however, the impairment of metabolism is general, involving tissues which, as well as the seat of primary infection, the corpuscles, are susceptible to the influence of contributing agents which have long been known as tonics, three of which we have mentioned, and thereby almost invariably a radical cure of the disease has been secured. In rheumatism, as distinguished from malarial disease, the impairment is only local, and because of the peculiarities of the tissue affected it possesses a nature peculiar to itself, and hitherto no effective contributing agent had been discovered which would act efficiently upon these particular specialized cells. No wonder that failures were common. This occasionally present need of a contributing agent may be construed as another point of analogy between the two diseases.

Then, again, rheumatism is a much more frequent affection than malarial disease, and even though the proportion of salicyl failures were no larger than that of quinine in the latter, yet the whole number would be larger and the rheumatic specific would apparently compare unfavorably with its malarial relative. In addition to this we must remember that many an illness is diagnosticated as malarial, and the patient recovers while quinine is being administered, which is not malarial at all, and the remedy thus secures a vast deal of credit which it does not deserve. I recall no painful affection which would be likely to be mistaken for rheumatism and which salicyl compounds would be effective in curing, so that there has been little danger of the rheumatic specific receiving more credit than justly belongs to it.

Until the introduction of salophen this specific was obliged to make a single-handed fight, unlike its analogue quinine, no contributing agent of any value being known. Salophen at the present time is the only drug adjunct available which combines powerful analgetic with marked antirrheumatic properties, but it leaves much to be desired. Phenalgin is most powerfully analgetic in this affection, as it is in almost all others exhibiting painful phenomena, as are also in a lesser degree other derivatives of its class, but none of them or their combinations seem able to exercise an eradicating influence upon the disease equal to the salicyl compounds.

My experience with hot air, however, has led me to believe that we are about to turn a new leaf in the history of the results of rheumatic treatment, and that this potent contributing agent will raise salicin to a rank as an antirrheumatic specific in no wise second to quinine as an antimalarial one. I specify salicin as distinguished from salicylic acid and sodium salicylate because the two latter possess irritant tendencies toward the stomach and kidneys and depressing tendencies toward the heart, which sometimes render their ingestion in sufficiently large doses pregnant with disadvantageous effects upon the patient, and salicin is entirely free from these and usually just as effective.

It is in proving the effectiveness of the salicin regimen, when conditions hampering its action are removed by a sufficiently powerful contributing agent, that hot air forges another link for the analogical chain.

In promoting the absorption of the fibrous growths which sometimes remain and serve to keep up pain upon movement in joints previously affected by rheumatism, the measure under consideration is of great potency. It is worth while to bear in mind the fact that many cases of so-called chronic rheumatism consist of nothing more or less than these relics of former inflammations, and I have never seen any medicine afford more than the most temporary sort of relief. Deep septic foci, the various neuralgias, periostitis of diverse ætiology, masked gout, joint inflammations other than rheumatic, and, rarely, pressure from some tumor, also deserve a larger share of attention during our diagnostic deliberations in this connection than is usually accorded them, but the scope of this article permits merely their mention. Hitherto our only resources where fibrous adhesion has obtained have been massage and passive movement, electricity, blistering, and forcibly breaking down the bands.

The first two of these procedures have the largest proportion of good results to their credit, but absolute absence of any but very transitory benefit is not uncommon, limited results only obtain in the majority of instances, and a perfect removal of the evil is secured in only a very few. Blistering, to be effective, must be severe and sometimes frequently repeated, and its disadvantages, among which the discomfort caused the patient is not the least, need only be mentioned to be appreciated. Forcibly rupturing the adhesions is theoretically the most radical and effective method of eliminating this element in the equation; but the practice is commonly followed by reparative efforts of the parts, which become excessive and result in the formation of fresh adhesions, necessitating repetitions of the operation, to say nothing of the extreme pain caused to the patient, which usually is severe enough to demand an anæsthetic. And even then our results are many times open to criticism, and often to severe criticism, both as regards joint mobility and subsequent relief from pain on movement. The agent I am advocating usually renders any of these other measures unnecessary, and in those cases where it is not sufficient forcible rupture of the adhesions, the most radical, effective, and quickest of them, can be safely and confidently employed, because the hot air, applied immediately before and after the operation, relieves the pain very effectively and strangles the excessive local inflammatory reaction at its birth.

Another instance of its happy effect upon local inflammation is exhibited in its power over the unpleasant consequences of a sprain, which is strikingly illustrated by the following:

Case V.—Mr. F. A. G., professional man, about thirty years old, residing in a neighboring city, was in New Haven on a flying business trip in December, 1898. He had occasion to go upon the roof of a building, which was slippery, and slid off from the eaves, falling a distance of about twelve feet, alighting with great force upon his buttocks, with his right ankle doubled under him. Was rendered insensible by the shock, and on recovering consciousness discovered that among his numerous other aches and pains that caused by movement of the injured ankle was the most excruciating. I saw the case about four hours after the accident, at which time the ankle had begun to swell quite rapidly, was throbbing painfully and incessantly, and any manipulation caused the sufferer to shriek with agony. Hot air was administered early that evening, with resulting relief of the painful throbbing in twenty minutes. Patient complained several times during treatment that his toes were "burning," but the sensation was relieved by pressing the toweling down firmly upon the complaining members. He was put to bed with directions to call me at once if the pain returned, but no strapping or bandaging was applied. The joint was left perfectly bare and free. He was very anxious to get back to his home the next day, but I did not think it would be possible.

I heard nothing from him during the night, and on calling the next morning ascertained that he had fallen asleep shortly after I left, and had remained so all night. Ankle was not at all painful except upon movement, and then the sensation was that of exquisite soreness instead of the sharp, tearing agony of the night before. The swelling had nearly all disappeared, but the joint was still very tender upon deep pressure. Upon the end of the second toe was a blister the size of a split hazelnut, due to my inability to envelop the toes with the wrappings as closely as was desirable because of the extreme pain from even the slightest movement of the joint. Perspiration had collected upon the exposed area of skin, and my pressures had not been frequent enough to remove it before it had reached the boiling point, with the result, as the victim remarked, that "this morning the effects of your treatment are nearly as bad as the disease." He was extremely willing to submit to another, however, and was able to hobble unaided from his bed to another room wherein was the apparatus.

At the conclusion of this treatment patient again spoke of his desire to get home that day, and I told him to go in the afternoon if he felt able, but, if he did, to send me word, as I desired to treat him again in the evening if he were in town. He left that afternoon, and wrote me a few days later that he had reached his home with comparatively little trouble, so far as his ankle was concerned, and that the following day had been marked by the return of his ability to use the joint as freely as ever without pain or stiffness.

Formerly I had been in the habit of relying upon Dr. J. L. Crook's modification of Dr. Gibney's method of strapping with adhesive plaster, as detailed in the *International Journal of Surgery* for July, 1896, in dealing with sprained ankles. This had given me better results than any other treatment. But hot air is as much better than this as this is better than the others.

I was led to extend my experiments into the field of acute diseases other than rheumatism of microbic origin by the following experience:

Case VI.—Miss L. L., waitress. Was called to see the patient at two o'clock A. M., November 8, 1898, and found her suffering with severe colic. Had been feeling poorly and suffering from slight cramps in bowels for a week past. Abdomen was tense and tender, this last being especially well marked in the left iliac fossa. Bowels had been constipated for the past week. Pulse, 72; temperature, 98.6° F. Made provisional diagnosis of colic from indigestion and constipation, but, as patient was living in illicit relation with a man about town, and as I had met with some trying surprises in the way of gonorrhœal salpingitis, peritonitis, and incipient appendicitis during my practice, I decided to call again and watch her progress. Administered morphine, a quarter of a grain, and ordered magnesium sulphate in teaspoonful doses hourly, to be begun in the morning and taken until bowels moved, and then discontinued. Patient was comfortable, so far as pain was concerned, in half an hour, and I returned to my couch and resumed my interrupted slumbers.

Same Day, 6 P. M.—Found patient suffering acutely from severe cutting pains all over abdomen; pulse, 106; temperature, 100.5° F. Abdomen tense, acutely sensitive to touch, but focus of tenderness still remained in left iliac fossa, which was entirely intolerant of manipulation because of it. I was unable to find anything specific in the neighborhood of the appendix, changed my diagnosis to gonorrhœal salpingitis and general peritonitis, and was glad that I had called again. Morphine had controlled pain pretty well for four hours, after which it had returned, and continued with increasing intensity up to the time of my visit. Magnesium sulphate had produced two small, thin movements accompanied with sharp pains. I made up my mind that I was in for another of the usual harassing experiences which constitute the treatment of these cases, ordered that flannels wrung out of hot water be constantly applied to the abdomen, as hot as could be borne by the patient, gave her another hypodermic, left her two quarter-grain morphine pills to be taken in case the pain became unbearable, and put her on an exclusive milk diet.

November 9th, 12 M.—Patient had been suffering intensely since midnight. Knees were drawn up, abdomen much distended, unable to make the least movement without provoking excruciating agony, which was also occasionally exacerbated by attacks of retching, which accomplished nothing. She was shivering and her teeth were chattering from the exhaustion due to long-continued suffering. Pulse, 104; respiration, 28, very shallow and quick; temperature, 101.2° F. The morphine pills that I had left had not been used, as I had requested her not to take them unless it was absolutely necessary. With the proverbial capacity of her sex for enduring pain, she had not considered that the point of absolute necessity had yet been reached. I saw that something had to be done or the exhaustion from this continuous terrible pain might kill her of itself. I hated to inaugurate a systematic course of morphine, with its resultant evils, particularly undesirable in a disease of microbic origin, where it is of the first importance to preserve the metabolic activities of the body unimpaired, but, as the hot applications were doing practically no good, it seemed the only measure capable of dealing with the situation.

While I was considering, the attendant came to the bedside to change the flannels. The patient looked up at her and exclaimed, "Oh, is it very hot?" Upon being assured that it was, she remarked, "The hotter you get it the better it feels."

Like a flash my hot-air apparatus rushed into my mind. With it I could apply a heat of 500° F., whereas the flannels could not be used at more than 160° F. I quickly asked her if it was true that the greater the heat the greater the comfort she experienced. She answered that if the flannels were not very hot they gave her no relief at all. A small ray, that was hardly strong enough to be hope, brightened the darkness. If 160° F. of heat gave her some relief from pain, twice or three times that might give her a good deal, and by frequent repetitions I might be able to avoid the morphine. It was worth the experiment. I told her that I would try something else in the afternoon and did not administer any morphine.

At 4.30 I applied hot air with doubt, fear, and trembling. My gratification can be better imagined than described when at the end of ten minutes the sufferer's face relaxed its pain-distorted lineaments. In thirty minutes she looked up at me with a quiet smile, saying, "Oh, how good that feels!" and in forty-five minutes, while still under treatment, she had fallen exhaustedly asleep for the first time in thirty-six hours.

At the end of treatment patient expressed herself as being entirely free from pain while she kept still, but when she moved it was still there, and manipulation was as little tolerated as before. I left the apparatus there, directed that I be called immediately when the pain returned, and departed, walking upon air, because of the result achieved. I expected, of course, that a repetition would soon be necessary. However, I had been able to give her a relief so perfect that even morphine would have been inadequate for its accomplishment, and by withholding the drug had been enabled to preserve her mental and physical functions unimpaired. If I could keep this up I would be willing to treat her every hour if necessary. The hours wore on, and to my growing astonishment I received no summons, until by the following morning I began to fear that another physician had been substituted for me without the formality of my discharge having been observed. I found it difficult of belief that the treatment could have produced results so happy and so long continued.

10th, 12 M.—Patient greeted me smilingly, reporting that relief from pain had continued complete until nine o'clock the preceding evening, when for about fifteen minutes she suffered from slight cramps. At midnight she had severe cramps for an hour, but none since, and, to make a long story short, I will say here that those were the last pains she suffered. The abdomen was relieved of its distention; tenderness upon pressure had entirely disappeared from the right abdomen, but was considerably in evidence in the left, and very much so in the umbilical region and below, from manipulation of which she shrank in terror. Bowels had functionated spontaneously and with little pain. Was taking milk freely and stomach was not at all irritable. Pulse, 72; respiration, 18; temperature, 98.6° F. Hot air was again administered.

Same Day, 6 P. M.—Patient was and had been entirely comfortable. Pulse, 83; respiration, 18; temperature, 99° F. Directed that I be called if pain appeared, and did not see her again until the next day.

11th, 10 A. M.—Patient had slept uninterruptedly all night and was feeling hungry. No tenderness anywhere in the abdomen except over a small area immediately inferior to the umbilicus. Pulse, 72; respiration, 16; temperature, 98.6° F. Hot air administered.

Same Day, 9 P. M.—Patient has been sleeping some during the day. Entirely comfortable and only very slight tenderness on pressure in umbilical region. Pulse, 66; respiration, 18; temperature, 98.6° F.

12th, 8 P. M.—Found patient sitting up, dressed, sewing. No pain or tenderness upon pressure was anywhere discoverable. Pulse, 76; respiration, 18; temperature, 98.6° F.

15th, 8 P. M.—Patient called at my office as by appointment. Pulse, 78; respiration, 20; temperature, 98.6° F. Examination reveals slight tenderness upon deep pressure over left Falloppian tube. Nowhere else. Escorted her upstairs to my operating room and once more administered hot air. Requested that she report in three days.

18th.—Reports that she returned to her work yesterday morning. Feels as well as she ever did in her life, and searching examination betrays absolutely no sign of her late illness. She wrote me a letter from another city two months later in which she stated that she was and had been perfectly well since I last saw her.

The felicitous results which I had obtained in this case opened my eyes to the fact that the sphere of usefulness of hot air was by no means confined to rheumatic affections. If it would thus profoundly influence the peritonæum why would it not produce like results upon the pleuræ, and even upon deeper tissues, the air cells themselves? I soon had an opportunity to try the experiment.

CASE VII.—On November 8th, the same day upon which I first saw the preceding case, I was called to attend Mr. J. H., thirty-two years old, and found him suffering with pneumonia, another disease which I take special pleasure in treating. He had been steadily growing worse with what he thought was a cold for the preceding four days. Pulse, 84; respiration, 44; temperature, 102° F. By evening of the same day his pulse had risen to 88, respiration to 50, temperature to 103.5° F., and I decided that the trouble was grippal ætiologically. The lower lobe of the left lung was the area exhibiting consolidation.

As the measure under consideration did not appear in the case until November 17th, I will not go into the details of the intervening period. Suffice it to say that on November 9th the sputa became typically pneumonic, which, in connection with other conditions then obtaining, induced me to change my mind as to its influenzal origin, and that after this the case progressed as these cases usually do. Resolution was taking place, and on the evening of the 16th of November I formed the conclusion that the illness would soon reach a happy termination, although the patient was much reduced in strength, and expressed my intention of not calling again until the following evening.

November 17th.—Was sent for in great haste at 6 P. M., and on arriving learned that the victim had begun to be troubled with his breathing again and to feel badly this morning, which symptoms had steadily increased up to the time of my visit. Had slight chill in the night. He was shockingly prostrated, suffered with severe pain in right side, had constant, tremulous, hacking cough, and was raising blood-stained sputa. Pulse 130, very weak, and irregular; respiration, 50, shallow, unsteady, and "catchy"; temperature, 101.2° F. Physical examination showed that the original focus of the disease was in a satisfactory condition, but that the lower lobe of the right lung was consolidated, and a marked pleural creak was evident. Heart sounds were very small and muffled.

Here was an encouraging condition of things! A patient who had not yet recovered from one severe pneumonitis, which it had required nearly all of his reactive power to overcome, saddled with another just as severe apparently as the original attack, and which he would have to fight not single-handed, but half-handed. I fully expected that the prescription I was then signing would soon be displaced by a death certificate. Before despairing, however, I called to mind the possibilities suggested by the preceding case, and decided to test the capabilities of hot air in that direction.

Treatment was applied, and in thirty minutes patient was resting quietly, the cough was stilled, pleural pain had diminished in intensity to such an extent that he said he "didn't mind it much now," respiration was easy at 32 a minute; pulse 116, and so increased in strength and volume that the trained nurse in attendance remarked that she "had never seen anything act like that before." I never had myself, although I did not say so, and my gratified surprise, though great, was not as profound as it would have been had this case superseded No. VI. In fact, I do not think I should have used it at all had such been the succession of events.

I had discarded pneumonia jackets, poultices, and other local applications in this disease five years previously, except in those cases characterized by severe pain from pleurisy, and then my local measures were confined to mustard plasters and the hot-water bag. I have never had the courage to use ice, neither my experience nor any line of reasoning to which I have listened having as yet persuaded me that the oft-expressed belief in the identity of the effects of extreme hot and extreme cold applications is a well-founded one. It seems to me that to convince himself one has only to immerse his hand in water at 32° F., keep it there five minutes, and note carefully the effect and sensations produced. Then, after the member has fully recovered from this immersion, plunge it for the same period of time into water at 160° F., which is as much hotter than the normal as the freezing point is colder, and observe the difference. I can not conceive how any one who has ever seen the difference in the effect of hot and cold applications upon an incarcerated hernia can continue to believe their effect identical. Another refutation is met in the fact that in some individuals a neuralgia will be aggravated by cold applications and relieved by hot, and in others *vice versa*.

A long-continued contact with cold is extremely depressing both to the organism as a whole and to the local metabolism of the part acted upon, and I am opposed to its use in pneumonia, except to the extent of an ice-cap for cephalalgia, or when it becomes necessary to combat hyperpyrexia. True hyperpyrexia rarely obtains in this disease, however, as the strain upon the vital powers, which precipitates it by exhausting the heat inhibitory centres, is not sufficiently profound or continued long enough. The disease is usually characterized by a rapid crisis.

My mustard pastes and hot-water bags would give the patient considerable relief from pain, but I have never observed that it was very marked or sustained, or that any radical effect was observable upon the local lesions. Of course not, because it was not hot enough to modify tissue metabolism with sufficient force or to penetrate to a sufficient depth. Pneumonia, so far as we now know, is a disease many, at least, of the pernicious features of which are due to ptomaine toxicity of microbic origin; hence, for the same reasons set forth in connection with its use in Case VI, I am opposed to morphine here. Thus the power of dry heat of high degree to relieve the pleural pain of this ailment was a source of gratification second only to that which I derived from its, as far as the life of the patient is concerned, more important power of influencing the engorged circulatory apparatus of the consolidated area, as shown by the marked and immediate improvement in the pulse and respiration.

I may say here as well as anywhere that I have never seen any shortening in the duration of this disease, as regards its general constitutional features, through any influence exerted by hot air. The characteristic respiration, the considerably but not greatly accelerated pulse rate, the variations in temperature, prostration, sweats, etc., obtain and run their courses much as usual, except that they may be somewhat mitigated in intensity. I am not prepared to make a positive statement even to this extent in this connection as yet. Its power is effective purely and simply against the local lesion, and probably whatever general benefit accrues is due to the relief of reflex disturbances and cardiac distention dependent thereon. In the cases which I have so far treated with it the exudate has disappeared, and, so far as physical signs would show, the pulmonary tissue has regained its normal condition in from three to five days. How much of a part is played by lessened ptomaine production, through this profound influence upon and rapid removal of the local pathology, in the general good resulting therefrom, I am unable to state. It certainly effects a vast increase in the patient's comfort, which is an aid not to be by any means despised.

(To be continued.)

Therapeutical Notes.

Bourguignon's Ointment for Scabies.—The formula, taken from the *Bulletin général de thérapeutique*, is thus given in the *Indépendance médicale* for October 25th:

℞	Oil of lavender, Oil of cinnamon, Oil of cloves, Oil of peppermint, each	2 parts;
	Gum tragacanth	4 "
	Potassium carbonate	30 "
	Flowers of sulphur	90 "
	Glycerin	180 "

M.

The Permanganate Treatment of Gonorrhœa.—In the discussion of a paper by Dr. Motz, read at a recent meeting of the French Association of Urology (*Presse médicale*, October 25th), Dr. Guiard favored the use of weak solutions, not stronger than 1 to 5,000 or 1 to 10,000. They were quite as efficacious as strong solutions, he said, and produced neither pain, hæmaturia, nor "serous reaction."

The Treatment of Pruritus.—In the *Presse médicale* for September 9th Dr. A. F. Plicque says that the two following applications are among the most efficacious. The first is known as Vidal's *glycérolé tartrique*, and the second as Hardy's *lait soufre:*

1. ℞	Glycerite of starch	20 parts;
	Tartaric acid	1 part.
M.		
2. ℞	Emulsion of almonds	10 parts;
	Sulphur	1 part.
M.		

To Cure a Cold in the Head.—Dr. A. S. Barnes (*Interstate Medical Journal*, October) gives the following directions: Place the patient in a tub of warm water, the temperature being from 97° to 100° F., or as hot as he can stand it without inconvenience for five minutes. Then roll him in a warmed blanket and put him in bed, heaping on covers. Something must previously be placed under the patient so as not to wet the bedclothes from the sweating. Next give one eighth of a grain of pilocarpine hydrochloride dissolved in one half glass of warm water. If the patient is weak or thin, less pilocarpine may be used. After three quarters of an hour's sweating give the patient oneone-hundredth of a grain of atropine in water. Fifteen minutes after this mop him without friction with warm towels (the Turkish being preferable) and put on him a warmed night robe, placing him between warmed sheets with his ordinary covering over him. Give the following prescription:

℞	Phenacetine	18 grains;
	Salol	36 " .
	Caffeine citrate	4 "

M., ft. capsulæ xij. Sig.: One every two hours.

Be sure and inform the patient that the dribbling from the mouth is the result of the medicine and will soon disappear.

If these directions, says the author, are carried out to the letter there is no danger connected with this treatment, and this method will cure a cold more quickly than any other.

Mercury and Iodine in Syphilitic Affections of the Joints.—Dr. W. Pielicke (cited in the *Deutsche Aerzte-Zeitung* for November 1st) gives the following formula:

℞	Mercury biniodide	1½ grain;
	Potassium iodide	75 grains;
	Distilled water	2,700 "
	Sherry wine	300 "

M. S.: A tablespoonful twice a day.

Oil of Wintergreen as an Application to Suppurating Surfaces.—At a recent meeting of the Paris Society of Therapeutics (*Indépendance médicale*, November 8th) Dr. Gallois reported excellent results from the use of pure methyl salicylate (oil of wintergreen) as an application to various suppurating surfaces, including that of a varicose ulcer, a patch of furuncles, open cervical glands, and a subungual abscess.

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THE PLAGUE-SHIP AND HER CARGO.

THE newspapers, as was to have been expected, have been somewhat excited over the recent arrival at the quarantine station of New York harbor of a steamer having in its company two men apparently convalescent from the bubonic plague. This is only natural; the plague is a disease with which we are practically unacquainted, and therefore it has the terrors of the unknown. Few people in this community are much exercised over the matter of avoiding the infection of typhoid fever; indeed, most of them are obstinately deaf to the warnings that medical men are continually spreading broadcast. But let a new disease threaten us, or one that, though old in the world's history, is one to which we are unaccustomed, and at once a panic is almost sure to arise. However, the world is growing more and more callous to the alarmist's outbursts, and there are as yet no signs that New Yorkers are stirred up about the plague.

The question seems to be as to what shall be done with the ship's cargo, consisting of coffee in bags. The health officer of the port, Dr. Doty, and his predecessor, Dr. Jenkins, both of whom are members of the city board of health, are understood to be in favor of allowing the coffee to be landed after a proper exposure to influences generally held to be quite adequate for the destruction of plague germs. We do not question that they are quite right in the stand they are reported to have taken, but perhaps it would be well to have the coffee roasted and put into fresh receptacles before it is brought to the city, if only to allay the fears of the few citizens who might otherwise become alarmed.

The ship's rats are the real sources of danger. If any of them have made their escape to the shore and taken up their abode on board craft bound for the city, the consequences will be known before long; but the supposition that they have done so seems untenable in view of the disinfecting processes to which the ship has been subjected. We have no fear of the coffee and we are not afraid of the rats; let the cargo come to town.

PHOTOTHERAPY.

AT the International Congress on Tuberculosis intense interest was excited by the demonstrations of Professor Finsen, of Copenhagen, on his method of treating lupus and other superficial diseases by the concentration of light rays. Professor Finsen some ten years ago attracted considerable attention by his red-light treatment of the eruption of small-pox and other exanthemata, the principle of which consisted in excluding the irritating light rays from the violet end of the spectrum and allowing only the soothing red rays to act on the eruption. Following up the train of thought so originated, Professor Finsen next set himself to investigate the possibility of using the violet rays therapeutically. Three propositions underlie Professor Finsen's methods: First, that the action of the blue and violet, and especially of the ultra violet, rays is markedly bactericidal. This point was established by Downes and Blunt in a communication to the Royal Society, and has been supported by further investigations. Secondly, the principle established by Bowles, that it is to the violet and blue rays that the power of producing a dermatitis, *erythema solare*, must be referred. And thirdly, the power of these chemical or actinic rays to penetrate the skin.

In employing Finsen's treatment, the skin must be rendered as anæmic as possible; for the blood offers the chief impediment to the penetration of the actinic rays, as is shown by the fact that a piece of paper coated with a silver salt and placed in contact with a lobe of the ear, from the opposite side of which a strong light is projected upon it, will remain unaffected for a long time; but if the ear is rendered exsanguine by pressure between two pieces of glass, the photographic change is induced on the paper in a few seconds. The skin being rendered anæmic, the diseased portions are next submitted to the action of the concentrated rays from the violet end of the spectrum by means of special apparatus. This action is followed after a varying interval, usually some hours, by redness and swelling, and occasionally by the formation of bullæ. In course of time, after protracted treatments, the jellylike nodules disappear and a scar is formed.

Professor Finsen employs both sun and electric-arc light in the Finsen medicinske Lysinstitut in Copenhagen. The former is considered preferable, but the latter has the advantage of being always available. The apparatus for rendering the skin anæmic, and at the same time for eliminating the heat rays and preventing burning, consists of a convex lens of quartz with a plane cover of the same material, held together by a metal ring. This ring is pierced by two tubes and the cavity is filled by a current of cold water. The lens is strapped on to the part to be operated on, rendering it anæmic by the pressure and at the same time cooling it. If sunlight is used to concentrate the rays on the spot to be operated upon, a plano-convex lens formed of a flat plate of glass and a convex one, the space between them being filled with a bright blue, weak ammoniacal copper solution, is employed. By thus selecting only the blue and violet rays the chemical and bactericidal effects are more marked, while the burning properties are excluded.

When, however, the electric light is used, a different apparatus is needed, consisting of telescopic tubes with two quartz lenses at the proximal end, while in the distal end of the tube are two other quartz lenses, the space between being filled with distilled water. This tube is attached to a ring surrounding the arc light in such a manner that the rays are concentrated on the spot to be operated on, the pressure-screen lens first described being interposed. The *British Medical Journal* for September 30th gives a very lucid description of the method from the pen of Dr. Valdemar Bie, Dr. Finsen's laboratory assistant. Illustrations are shown of the various instruments, the methods of their employment are described, and four cases are related in which the patients are portrayed before and after treatment. The results would seem to be distinctly remarkable. Some three hundred and fifty cases of lupus vulgaris have been dealt with at the institute in two years, and in every case improvement has occurred, in all but five amounting practically to cure. There seem to have been no real recurrences, though small nodules, probably masked by the dermatitis, have occasionally escaped notice and have needed a second spell of treatment. Lupus erythematosus and alopecia areata have also shown some remarkable results, though not such signal ones hitherto as have been afforded in lupus vulgaris.

Dr. Stephen Mackenzie, in the *British Journal of Dermatology* for November, details his experiences during a week at the Finsen Institute, and the impression formed by him was so favorable that he has prevailed upon the authorities of the London Hospital to adopt Finsen's method, all the apparatus having been generously presented by the Princess of Wales.

The advantages claimed for the light treatment of lupus lie in the minimizing of the unsightly scar, the skin remaining smooth, soft, supple, and neither deeply pigmented nor deadly white. There appears to be no liability to recurrence or contraction. The application is said to be altogether painless, although in a case presented by Mr. Malcolm Morris to the Dermatological Society of London (*British Journal of Dermatology*, November) some pain appears to have been experienced on the first application. The treatment also does away with the natural dread of "an operation" and with the danger arising from anæsthesia. There are, however, two considerable objections—the slowness of the process and the expense. The treatment requires to be continued during at least three or four months for a period of an hour daily. The apparatus is costly, much medical attendance is involved, the working cost of the electric light is considerable, and it seems that a special nurse is required for each patient during the treatment. Until some simplified methods have been evolved—as our experience with the X ray must lead us to think will quite probably be the case—the treatment will be inevitably confined to institutions.

At various times the effects of colored glass, sunlight, etc., have been insisted on as the basis of therapeutic systems. While we do not look for the establishment of any "system of therapeutics," we certainly think that the Finsen phototherapy has introduced a new therapeutic method, and indicated a field for further investigation, signs of which are evident in a paper on The Therapeutics of Light and Heat, by Dr. W. Knowsley Sibley, in the *British Medical Journal* for November 4th.

STYPTICIN IN THE TREATMENT OF UTERINE HÆMORRHAGES.

The besetting sin of the gynæcologists of the present day—but one from which, we are glad to observe, they seem to be emancipating themselves—is the propensity to perform an operation if only a pretext for it can be found. As Dr. H. Abegg, of Dantsic (*Centralblatt für Gynäkologie*, November 4th), puts it, they are too apt to overlook the question, Would you have the operation done on your own wife? He cites the fact that many operations are performed for uterine myomata without any urgent reasons for them, and he gives it as his own opinion that, aside from malignant tumors, there is only one positive indication for laparotomy for uterine neoplasms, namely, the frequent occurrence of intractable hæmorrhage.

As to the medicinal treatment of uterine hæmorrhage, Abegg gives his experience with stypticin in fourteen cases, including one of menorrhagia, three of defective involution of the uterus after abortion, one of hæmorrhage after labor at term, and nine of hæmorrhage at the menopause. He has not found stypticin efficient in cases of hæmorrhage due to large myomata or polypi, but in some of his cases it proved useful as a sedative, producing placid sleep, and he remarks that it has the advantage over ergot of not disturbing the stomach. It is of little or no use to check the bleeding of incipient abortion, but in menorrhagia, puerperal hæmorrhage, and the hæmorrhages associated with the climacteric, especially the first and third of these forms of uterine hæmorrhage, it is highly efficient. The dose in which he has prescribed the drug is three quarters of a grain, two or three times a day as a rule, but in some instances as many as five times in twenty-four hours. In no case does he appear to have observed any untoward effects.

In our issue for June 17th we gave a summary of Nassauer's experience with stypticin in the treatment of uterine hæmorrhage and dysmenorrhœa, which seems to have been even more satisfactory than Abegg's, but it appears that Nassauer used larger doses than those prescribed by Abegg, and dwelt more on the analgetic action of the drug. It is to be hoped that further observation will show that we have in stypticin a uterine hæmostatic and sedative of no mean value.

GELATIN AND THE HÆMORRHAGIC DIATHESIS.

The announcement, made not long ago, that gelatin was an efficient hæmostatic, has been well supported by abundant subsequent observation. The efficacy of the agent in arresting various forms of hæmorrhage seems to be established, and it is satisfactory to observe that the hæmorrhagic diathesis does not wholly rob it of its power to arrest bleeding, as has been observed by a number of French physicians. An interesting case exemplifying this fact has been recorded by Dr. R. Heymann, of Leipsic (*Münchener medicinische Wochenschrift*, August 22d; *Indépendance médicale*, September 13th). A young man complained of frequent attacks of epistaxis. On either side of the nasal sæptum, about a third of an inch back from the nostril, there was an area of little dilated vessels which bled on being touched gently with a probe. There was chronic nasal catarrh, and there were adenoid vegetations in the pharynx. After the removal of the adenoids there was such persistent hæmorrhage as to give rise to anxiety. All the ordinary means of checking it were employed without success, but the injection of a sterilized solution of gelatin had the desired effect.

THE PREVENTION OF THE ABUSE OF MEDICAL CHARITY.

The new rule established by the State board of charities requiring the dispensaries to inquire as to the ability of applicants for free treatment to pay for medical services, and to deny such treatment to those whom they find unworthy, bids fair to be found difficult of execution unless its terms are somewhat modified. In particular, it seems to be considered burdensome to the dispensaries that the cost of the necessary investigation should fall upon them, and it has been proposed that, since the State insists upon the inquiry, the expense should be met by an appropriation of State funds. This, however, is a matter which probably can and will be adjusted equitably when time enough has elapsed to show to what extent, if at all, the State board's requirement is onerous.

CARDIAC WEAKNESS AS A CAUSE OF GANGRENE.

Even in young children weakness of the heart's action is to be reckoned with as an occasional cause of gangrene. A striking case in point is reported by Dr. Zuppinger, of Vienna (*Wiener klinische Wochenschrift*, 1899, No. 13; *Prager medicinische Wochenschrift*, November 2d). It was that of a girl, five years old, in whom gangrene of the skin of the back, of one foot, and of the great toe of the other foot occurred during the stage of resolution of a croupous pneumonia. There was considerable loss of tissue, but the child recovered.

WOMEN AS SURGEONS.

From the *Journal of the American Medical Association* for November 8th we learn that "In Australia the argument advanced by the opponents of the measure to appoint women physicians to the hospitals was that at certain physiological periods women are a source of danger to" (patients suffering from) "surgical diseases." We presume that in hospitals where such views obtain only male nurses are employed.

THE HOSPITAL SHIP *MAINE*.

The earnestness of the Americans who are fitting out a hospital ship for the benefit of their British kinsmen in southern Africa has been abundantly attested. Recent information is to the effect that the handsome sum of twenty-five thousand dollars has been received as the contribution of a single individual. As we have before remarked, we consider the undertaking most laudable.

SUGAR AS A SUSTAINING AGENT.

Sugar has long been credited with some efficiency as a strengthener of uterine contractions, and now a German experimenter, according to a dispatch to the *Sun*, finds it a prompt restorative in cases of fatigue due to muscular exertion. Three or four lumps are said to answer the purpose.

EUROPEAN CO-OPERATION IN THE SANITARY PROTECTION OF THE UNITED STATES.

It goes without saying that every civilized country may be relied upon to take ordinary measures to prevent the spread of infectious diseases, not only within its own confines, but beyond them. Nevertheless, the thoroughness with which various European countries are working to guard against the emigration of persons likely to carry with them the danger of infection, as shown by the recent observation of the health officer of the port of New York, is most gratifying.

ACTING ASSISTANT SURGEONS IN THE ARMY.

We learn that on Tuesday of next week there is to be held in the Seventh Regiment armory a meeting of the gentlemen who served as acting assistant surgeons in the army during the Spanish-American War, for the consideration and adoption of measures to secure by congressional action the status to which such surgeons think themselves entitled. We earnestly hope the movement will prove successful, and that any concession obtained may apply also to those who have served in the capacity of contract surgeons in the army at any time.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending November 25, 1899:

DISEASES.	Week ending Nov. 18.		Week ending Nov. 25.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	67	28	52	10
Scarlet fever	136	10	163	9
Cerebro-spinal meningitis	0	2	0	4
Measles	248	12	291	12
Diphtheria	274	46	269	31
Croup	15	9	10	5
Tuberculosis	125	151	183	149
Chicken-pox	19	0	25	0

Dengue in the Philippines.—Chief-Surgeon Woodhull reports from Manila that a severe epidemic of dengue is prevailing in the island of Luzon.

The St. Louis Medical Society.—At the last regular meeting on Saturday evening, November 25th, Dr. J. B. Ross reported the following cases: Adeno-cystoma hepatis, with operation and recovery, and polycystic degeneration of both kidneys.

The Buffalo Academy of Medicine.—At the last regular meeting, on Tuesday evening, November 28th, the following papers were presented for discussion: Lessons from Practice in Obstetrics, by Dr. P. W. Van Peyma; and Mensuration and Capacity of the Female Bladder, by Dr. Lyon.

The Chicago Society of Internal Medicine.—At a joint meeting of this society and the Chicago Medical Society, on Wednesday evening, November 29th, Dr. J. G. Adami, of Montreal, delivered the annual lecture on Latent Infection and Sub-infection, with Special Reference to the Ætiology of Pernicious Anæmia.

The German Medical Society of the City of New York.—The annual meeting will be held on Monday evening, December 4th. Patients and specimens will be shown, Dr. F. Schwyzer will read a paper on Syphilitic and Arteriosclerotic Aortitis and the Formation of Aneurysm, and Dr. A. Meyer will read one on State Care of Indigent Consumptives, with a Description of the Massachusetts State Hospital for Tuberculosis.

The International Otological Congress.—We learn that, owing to the date for holding the International Medical Congress falling in 1903, it has been decided that the next International Otological Congress shall not take place in that year, but in 1902. The meeting will be held in Bordeaux, under the presidency of Dr. Moure.

Changes of Address.—Dr. Frederick A. Eggersman, to No. 166 East Ninetieth Street, New York; Dr. David Friedman, to No. 197 Lenox Avenue, New York; Dr. Louis J. Ladinski, to No. 1289 Madison Avenue, New York; Dr. Belle J. Macdonald, to No. 542 Fifth Avenue, New York; Dr. David M. Marvin, to No. 12 West One Hundred and Thirtieth Street, New York; Dr. G. R. Pisek, to No. 250 East Seventy-second Street, New York.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending November 24, 1899:

Small-pox—United States.

Chicago, Ill.	Nov. 11–18	2 cases	
Louisville, Ky.	Nov. 8–16	1 case.	
New Orleans, La.	Nov. 11–18	1 "	
Chelsea, Mass.	Nov. 7–14	3 cases.	
Cleveland, Ohio	Nov. 11–18	1 case.	
Portsmouth, Va.	Nov. 11–18	3 cases,	1 death.
Seattle, Wash.	Oct. 7–Nov. 4	5 "	

Small-pox—Foreign.

Antwerp, Belgium	Oct. 21–28	5 cases.	
Prague, Bohemia, Austria	Oct. 21–28	9 "	
Bradford, England	Oct. 28–Nov. 4	1 case	
Gibraltar	Oct. 22–Nov. 4	2 cases.	
Athens, Greece	Oct. 22–Nov. 4	7 "	2 deaths.
Bombay, India	Oct. 1–24		9 "
Madras, India	Oct. 14–20		1 death.
Messina, Italy	Oct. 28–Nov. 4		1 "
Osaka and Hiogo, Japan	Oct. 1–14	1 case.	
Chihuahua, Mexico	Nov. 4–11	11 cases.	
Vera Cruz, Mexico	Nov. 2–9	7 "	
Odessa, Russia	Oct. 22–28	9 "	2 deaths.
St. Petersburg, Russia	Oct. 2–Nov. 4	27 "	5 "
Warsaw, Russia	Oct. 16–22		7 "
Straits Settlements, Singapore	Sept. 23–Oct. 7		5 "
Constantinople, Turkey	Oct. 31–Nov. 6	1 case.	

Yellow Fever—United States.

Key West, Fla.	Nov. 11–20	2 cases,	2 deaths.
Miami, Fla.	Nov. 15–22	25 "	2 "

Yellow Fever—Foreign.

Babia, Brazil	Oct. 15–22	1 case,	1 death.
Barranquilla, Colombia	Oct. 22–28	1 "	1 "
Havana, Cuba	Nov. 4–11		5 deaths.
Nuevitas, Cuba	Nov. 14		1 death on U. S. Transport *Ingalls*.
Vera Cruz, Mexico	Nov. 2–9	4 cases,	3 deaths.

Cholera.

Bombay, India	Oct. 17–24		1 death.
Osaka and Hiogo, Japan	Oct. 7–14	1 case.	

Plague—United States.

New York Quarantine	Nov. 18	1 suspected death on British S. S. *J. W. Taylor*, from Santos, at sea; 2 suspected cases on board.

Plague—Foreign.

Santos, Brazil	Oct. 22–Nov. 17	23 cases,	10 deaths.
São Paulo, Brazil	Oct. 17–Nov. 17	2 "	
Plymouth, England	Oct. 9	1 case on S. S. *Peninsular* from Bombay.	
Bombay, India	Oct. 10–24		188 deaths.

St. Mark's Hospital.—On Saturday night, November 25th, a concert in aid of the hospital was given at the Metropolitan Opera House. We are glad to learn that the proceeds were considerable.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 18 to November 25, 1899:*

BANISTER, WILLIAM B., Captain and Assistant Surgeon, United States Army, having reported, will proceed by the transport *Logan* to Manila, and, on arrival, will report for assignment to duty.

Cooney, Daniel C., Acting Assistant Surgeon, United States Army, will report at Hamilton Barracks, New York, for duty with the troops while on practice marches.

Greenleaf, Charles R., Colonel and Assistant Surgeon-General, United States Army, will proceed to the Philippine Islands on the United States transport *Hancock*.

Maus, Louis M., Major and Surgeon, United States Army, is assigned to duty with troops on the United States transport *Hancock*, during the voyage of that vessel to the Philippine Islands.

O'Reilly, Robert M., Major and Surgeon, United States Army, will proceed to Fort Monroe, Virginia, to relieve De Witt, Calvin, Lieutenant-Colonel and Deputy Surgeon-General, United States Army, who will proceed to New York city for duty.

Wells, G. M., Captain and Assistant Surgeon, United States Army, will temporarily assume the duties of attending surgeon at these headquarters during the absence of Reynolds, F. P., Captain and Assistant Surgeon.

Woods, O. W., Acting Assistant Surgeon, United States Army, will proceed to Seattle, Washington, and report on the transport *Victoria*, for duty during the voyage of that vessel to the Philippine Islands.

Woodson, Robert S., Captain and Assistant Surgeon, United States Army, will report for temporary duty at the United States General Hospital, Presidio of San Francisco, awaiting transportation to the Philippine Islands.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending November 25, 1899:*

Heneberger, L. C., Surgeon. Ordered to temporary duty, November 23d, in connection with the recruiting rendezvous, Detroit, Michigan.

Harris, H. N. T., Passed Assistant Surgeon. Ordered to New York, December 4th, for examination for promotion, and then home and to wait orders.

Simons, M. H., Medical Inspector. Ordered to the naval recruiting rendezvous, 177 Main Street, Buffalo, New York.

Price, A. F., Medical Inspector. Ordered to be examined for promotion at Washington, D. C., November 29th, and then to wait orders.

Lumsden, G. P., Surgeon. Detached from the naval recruiting rendezvous, Buffalo, New York, and ordered home to wait orders.

Dickinson, D., Medical Inspector. Detached from the naval hospital, Washington, December 1st, and ordered home to wait orders.

Price, A. F., Medical Inspector. Ordered to the naval hospital, Washington, D. C., December 1st.

Hancock, F. B., Assistant Surgeon. Resignation accepted, to take effect from November 25th.

Marine - Hospital Service.—*Official List of the Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending November 23, 1899:*

Carter, H. R., Surgeon. To report at Washington, D. C., for special temporary duty.

Carmichael, D. A., Surgeon. Leave of absence for thirty days granted by Bureau letter of August 23, 1899, revoked.

Magruder, G. M., Surgeon. Relieved from duty at Memphis, Tennessee, and directed to report at Washington, D. C., for special temporary duty.

Geddings, H. D., Passed Assistant Surgeon. To proceed to New York, for special temporary duty.

Smith, A. C., Passed Assistant Surgeon. To report at Washington, D. C., for special temporary duty. To rejoin station at Norfolk, Virginia. November 22, 1899.

Grubbs, S. B., Assistant Surgeon. Relieved from duty at Cienfuegos, Cuba, and directed to report at Washington, D. C., for special temporary duty.

Robinson, D. E., Assistant Surgeon. Relieved from duty at Mobile, Alabama, and directed to proceed to Memphis, Tennessee, and assume command of the service.

Thornbury, F. J., Assistant Surgeon. Relieved from duty at New York (Immigration Depot), and directed to proceed to San Francisco, California, for duty and assignment to quarters.

Bready, J. E., Acting Assistant Surgeon. Granted leave of absence for seven days.

Clarke, F. M. Acting Assistant Surgeon. Granted leave of absence for ten days from November 20th.

Dudley, D. E., Acting Assistant Surgeon. Department letter of October 31, 1899, granting Acting Assistant Surgeon Dudley leave of absence from November 1, 1899, amended so that said leave shall date from November 16th.

Smyth, F. R., Acting Assistant Surgeon. Granted leave of absence for four days.

Achenbach, John, Hospital Steward. Relieved from duty at Port Townsend, Washington, and directed to report to the Port Townsend Quarantine station, Washington, for duty.

Brock, G. H., Hospital Steward. Relieved from duty at New Orleans, Louisiana, and directed to proceed to Cincinnati, Ohio, for duty and assignment to quarters.

McKay, M., Hospital Steward. Relieved from duty at Boston, Massachusetts, and directed to proceed to New York (Stapleton), for duty and assignment to quarters.

Allen, G. C., Hospital Steward. Relieved from duty at New York (Stapleton), and directed to proceed to the Delaware Breakwater Quarantine station for duty and assignment to quarters.

Peck, F. H., Hospital Steward. Relieved from duty at Baltimore, Maryland, and directed to proceed to New Orleans, Louisiana, for duty and assignment to quarters.

Olsen, E. T., Hospital Steward. To rejoin station at Wilmington, North Carolina.

Troxler, R. F., Hospital Steward. Relieved from duty at San Francisco, California, and directed to proceed to Port Townsend, Washington, for duty and assignment to quarters.

Society Meetings for the Coming Week:

Monday, *December 4th:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, New York, Academy of Medicine; Utica, New York, Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical

Association; Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society: Chicago Medical Society.

TUESDAY, *December 5th:* Southern Surgical and Gynæcological Association (first day, New Orleans); New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, New York, Academy of Medicine; Ogdensburgh, New York, Medical Association; Syracuse, New York, Academy of Medicine; Medical Societies of the Counties of Herkimer (semiannual) and Saratoga (semiannual, Ballston Spa); Hudson, New Jersey, County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *December 6th:* Southern Surgical and Gynæcological Association (second day); New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, New York (New Brighton); Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

THURSDAY, *December 7th:* Southern Surgical and Gynæcological Association (third day); New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, New York; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, *December 8th:* Yorkville Medical Association, New York (private); Brooklyn Dermatological and Genito-urinary Society (private); German Medical Society of Brooklyn; Medical Society of the Town of Saugerties, New York.

SATURDAY, *December 9th:* Obstetrical Society of Boston (private).

Births, Marriages, and Deaths.

Married.

ALGER—STEVENSON.—In Bradford, Pennsylvania, on Tuesday, November 21st, Dr. Ellice M. Alger, of New York, and Miss Louise Stevenson.

BRADY—BRASIER.—In Brooklyn, on Wednesday, November 22d, Dr. William Joseph Brady, of New York, and Miss Isabel Brasier.

BUCK—BADGER.—In Marion, South Carolina, on Wednesday, November 22d, Mr. Henry Buck and Miss Lula Badger, daughter of Dr. Benjamin M. Badger.

CODMAN—BOWDITCH.—In Jamaica Plain, Massachusetts, on Thursday, November 16th, Dr. Ernest Amory Codman and Miss Katharine Putnam Bowditch.

GOODE—CABANNE.—In St. Louis, on Wednesday, November 22d, Captain George W. Goode and Miss Susie C. Cabanne, daughter of Dr. James S. Cabanne.

ORMISTON—HAZEN.—In Brooklyn, on Wednesday, November 22d, Mr. Henry Theodore Ormiston, son of Dr. Robert Ormiston, and Miss Florence Ledyard Hazen.

TENNANT—BAYNE.—In Washington, on Wednesday, November 22d, Mr. David Buffington Tennant and Miss Mae Ashby Bayne, daughter of Dr. John W. Bayne.

Died.

BALDWIN.—In Brooklyn, on Sunday, November 26th, Jeannette Newton Baldwin, infant daughter of Dr. L. Grant Baldwin.

CARROLL.—In Washington, on Sunday, November 5th, Dr. J. J. Carroll, United States Army.

MARTIN.—In Madison, New Jersey, on Friday, November 24th, James Lee Martin, son of Dr. W. Hammet Martin.

GREENE.—In Richburg, New York, on Monday, November 27th, Dr. Sheffield W. Greene, in the eighty-fifth year of his age.

WILLIAMS.—In Colorado Springs, on Wednesday, November 22d, Dr. Frederick W. Williams, of New York, in the fortieth year of his age.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XLVII.

PRIVILEGED COMMUNICATIONS.

(Continued from page 791.)

Knowledge Coming within the Law.—The question of what knowledge is within the meaning of these statutes is often a very nice one, and it is a question upon which the courts have many times been unable to agree.

There is no doubt, however, that the statute does not preclude one from stating that he is the family physician of another, nor from giving the number and dates of his professional visits,* and the date upon which he discharged the patient.† The disclosures which the law aims to preclude the physician from making are those facts which he learns in the course of his professional employment,‡ and to construe the statutes so as to give them this effect is the apparent design of the courts.

The statute of New York provides that one practising medicine and surgery shall not be permitted to disclose "any information which he acquired in attending a patient in a professional capacity." With the exception of five States # to be hereafter referred to, each of the States having statutes upon this subject has almost literally reenacted that part of the New York statute included within the quotation, which describes the knowledge that is protected.

It seems well settled that this clause in the statutes includes all knowledge gained in the professional intercourse of a physician with his patient, whether obtained from statements made to him by the patient or gained from observing and examining the patient. A leading case upon this subject is that of Edington *vs.* Mutual Life Insurance Company.* In this case Justice Miller says: "When it (the statute) speaks of information, it means not only communications received from the lips of the patient, but such knowledge as may be acquired from the patient himself, from the statement of others who may surround him at the time, or from observation of his appearance and symptoms. Even if the patient could not speak, or his mental powers were so affected that he could not accurately state the nature of his disease, the astute medical observer would readily comprehend his condition. Information thus acquired is clearly within the scope and meaning of the statute." The law, as stated by the learned judge in this case, has been cited with approval and followed in a number of succeeding cases in New York and elsewhere.† The examination of the patient referred to in these cases covers not only the thorough and careful examination made for the purpose of prescribing, but includes as well impressions or opinions regarding the patient's condition formed from his general appearance as disclosed at first sight, before the physician has had an opportunity to examine or converse with him.‡ Nor will the seal of silence be removed from the doctor's lips because the examination may have been conducted in the presence of others.#

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* Briesenmeister *vs.* Knights of Pythias, 81 Mich., 525; Patten *vs.* N. L. and A. Ins. Assn., 133 N. Y., 450, 31 N. E. Rep., 342.

† Dittrich *vs.* City of Detroit, 98 Mich., 245, 57 N. W. Rep., 125.

‡ Kelley *vs.* Highfield, 15 Or., 277.

# The five States not following the wording of the New York statute in the above particular are Indiana, Iowa, Nebraska, Ohio, and Wyoming.

In the States of Indiana, Iowa, Nebraska, Ohio, and Wyoming the statute provides that physicians shall not be allowed to disclose matter "communicated" to them by their patients, or to disclose any "communication," etc. The wording of this statute would seem at first sight to restrict the protection of privilege to such information as the physician received by communications from the lips of his patients; such, however, does not seem to be the understanding of the courts which have passed upon the question. The supreme court of Indiana, after quoting the statute of that State, says: "It sets the seal of secrecy and confidence upon what a physician observes in respect to the condition of his patient's person in the course of his professional examinations, as well as upon communications made to him by his patient. Accident or disease may compel the submission of one's person to examination by a physician, who thus acquires information which would be confided to no one else. The fear of disclosure often induces persons to suffer from bodily ailments rather than submit to examination by persons of skill. The policy of the statute is to protect and render inviolable the confidence which should exist between physician and patient. A physician is not permitted to disclose the result of observations or examinations made by him upon the person of his patient, unless with the consent of the latter, or unless the patient in some way waives his privilege." || And in a late case* the supreme court of Iowa says: "Although the statute of this State uses the word 'communication' it means much the same as the word 'information' in the statutes of other States to which we have referred. The prohibition of our statute refers not merely to verbal communications, but to those of any kind by which information of the character of that specified in the statute is imparted." The courts of last resort in the other three States having statutes similarly worded have not yet passed upon this particular question. It is hoped, however, that when a case involving this point shall be placed before them, they will be able to reach the same conclusion as that arrived at by the courts of the two sister States, for such a construction of the statute is more in accord with the true professional spirit of reserve regarding matters necessarily and confidentially disclosed to enable the physician to properly perform the functions of his profession.

By the statute of nearly every State the protection of the law is restricted to the knowledge gained by the physician which was "necessary and proper to enable him to discharge the functions of his office." The wording of the statutes of several of the States is different, yet the meaning conveyed is quite the same. In construing this clause of the statute there has been a lack of harmony, the courts at one time having shown a disposition to place a strict construction upon the statute and exclude all matter from the protection of the privilege which was not essential or necessary for diagnosticating or prescribing for the ailment; while the courts at a subsequent and previous period as well have shown a disposition to give the statute a more liberal construction, and include within its protection all communications which might reasonably or even remotely relate to the subject of the professional services.

There are certain communications that are manifestly outside of the protection of the law. Thus, where an unmarried woman told the physician who attended her at her confinement that the father of her child had never promised to marry her, the communication could not be withheld as privileged, for the statement was neither designed nor calculated to throw any light upon the patient's condition nor aid the physician in the remotest degree in his professional treatment of her.† The courts have, however, in many cases shown a disposition to admit every doubt in behalf of a liberal construction of the statute. Thus, the evidence of a physician that he had treated a certain patient for venereal disease and that the patient told him he had contracted the disease from the cook on his canal boat, was excluded as coming within the statute.‡ In this case the nature of the patient's affliction and the length of time he had been suffering from it are clearly within the protection of the statute, but there is room for doubt that the statement by the patient that he had had intercourse with his cook could have been intended or in any way designed to assist the doctor in the professional treatment of the case.

Probably the case most cited in favor of a strict construction of the statute is that of Edington *vs.* Ætna Life Insurance Company.# Herein Justice Earl says: "It will not do to extend the rule of exclusion so far as

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* Edington *vs.* Mutual Life Insurance Co., 67 N. Y., 185.

† Grattan *vs.* National Life Insurance Co., 15 Hun, 74; Briggs *vs.* Briggs, 20 Mich., 34; Gartside *vs.* Conn. Mutual Life Insurance Co., 76 Mo., 446; Corbett *vs.* St. L. I. M. and S. Ry. Co., 26 Mo. App., 621.

‡ Grattan *vs.* Metropolitan Life Insurance Co., 28 Hun, 430, 92 N. Y., 274.

Grattan *vs.* Metropolitan Life Insurance Co., 80 N. Y., 281.

|| Williams *vs.* Johnson, 112 Ind., 273.

* Prader *vs.* Accident Association, 95 Ia., 149.

† Collins *vs.* Mack, 31 Ark., 684

‡ Hunn *vs.* Hunn, 1 T. and C., 499.

Edington *vs.* Ætna Life Insurance Co., 77 N. Y., 564.

to embarrass the administration of justice. It is not even all information which comes within the letter of the statute which is to be excluded. . . . Suppose a patient has a fever or a fractured leg or skull, or is a raving maniac. All these ailments are obvious to all about him. May not the physician who is called to attend him testify to these matters? In doing so there would be no breach of confidence, and the policy of the statute would not be invaded. These and other cases which might be supposed, while perhaps within the letter of the statute, would not be within the reason thereof." Justice Earl gives it as his opinion in this case that the party attempting to avail himself of the privilege of the statute must show that the information acquired by the physician was such as was necessary to enable him to prescribe or to do some act as a surgeon. In harmony with the spirit of this decision is the case of Campan *vs.* North,* wherein a physician was permitted to testify to the date upon which a patient had told him she received a breach, for which he was treating her professionally. The court thought that the time the patient received the rupture, or rather the existence of the rupture, prior to a certain date, was not information "necessary to enable the doctor to prescribe for her as a physician or to do any act for her as a surgeon." The case of Linz *vs.* Massachusetts Mutual Life Insurance Company † presents the views of a court favoring a strict construction of the statute. Justice Hayden, in this case, after quoting with approval from the opinion of Justice Earl in the Edington case, says: "Objective signs that are obvious, or such an observation as implies no disclosure—symptoms which are apparent before the patient submits himself to any examination—the statute gives no authority for excluding. That a patient had an inflamed face, a bloodshot eye; that fumes of alcohol proceeded from his person; that he talked deliriously, could be excluded only on the basis that the statute forbids a physician to be a witness. These objective signs, and others which imply no knowledge obtained as the result of submission or exposure by the patient, and which would be apparent before the initial act of service on the physician's part, the latter should testify to under our statute."

These three cases present the extreme view favoring a strict construction of the statute. This view has not been approved or followed by later cases, and it is very much doubted whether it may be considered the law. The case of Kling *vs.* The City of Kansas ‡ probably presents the true doctrine. In this case the question was presented to the court whether or not a physician should be permitted to disclose the condition of a patient with regard to sobriety at the time of calling upon him to render professional services. The court, in an elaborate and learned opinion, explains clearly and satisfactorily the meaning of the statute with reference to the question of what information is "necessary information." The court is of the opinion that all information, although unimportant in itself, which is necessarily communicated to the physician in order to give him the knowledge needed to act in a proper professional capacity is "necessary information." It is evident that the information necessarily imparted to a physician to give him a clear understanding of all the conditions and circumstances of the case to enable proper professional treatment may, and oftentimes does, include much irrelevant matter, and matter which has no relation to the case as viewed from a medical standpoint, but which in its relation to matter more intimately related to the main question was necessarily communicated to give a correct and comprehensive view of the whole case. To illustrate, the court says: "If the patient, suffering from a gunshot wound, necessarily communicates the information to the physician that the wound was received in a personal encounter, in order to explain the probable course of the ball, information of which latter fact is needed or desired by the physician, information of the fact that the patient was wounded in a personal encounter, although that fact is unimportant, would be privileged. If the patient, suffering from a broken leg, in explaining to his physician the manner in which he received the injury, in order to give needed information concerning the injury, communicate to the physician information that he was under the influence of intoxicating liquor at the time of the accident, such information would be excluded." It will be remembered that the protection of the statute applies as well to information gained by seeing and observing the patient as to that acquired from oral communications of the patient; therefore, if a patient, to enable a physician to treat an injury, necessarily exposes his person, and thereby discloses a hidden defect or a mark indicating the presence or former existence of a loathsome disease, such an exposure, though having no relation to the cause of the present professional services, was necessarily made, and should therefore be considered within the protection of the law.

The court then refers to the distinction made by the strict construction case, above illustrated, between the obvious signs and conditions, such as the "bloodshot eye" and "fumes of alcohol," and the secret and hidden signs and defects. After showing that the Edington case is practically overruled, at least so far as the subject of the present inquiry is concerned, the court asserted that such a distinction had no support either from the words or spirit of the statute. The court said: "The physician called upon the plaintiff as his physician; any information as to the plaintiff's condition as to sobriety, acquired by the physician by seeing him, was necessarily acquired in order to treat him, and is excluded by statute."

It logically follows that a physician attending a patient that has been injured in an accident, railroad or otherwise, will not be permitted to disclose statements made to him by the patient as to how the accident occurred, especially if the communication was imparted to the physician for the purpose of aiding him in determining the character or extent of the injury. The decisions upon the subject are nearly all in harmony with this proposition.* Thus, in the case of Raymond *vs.* The Burlington, Cedar Rapids, and Northern Railway Company,† where the physician questioned the patient regarding the accident and said it was absolutely necessary to enable him to obtain a diagnosis, and that the injury would be more severe if the cars were in motion, the court held that the description of the accident given in response to these questions was privileged. In the case of The Pennsylvania Company

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* Campan *vs.* North, 39 Mich., 606.

† Linz *vs.* Mass. Mut. Life Ins. Co., 8 Mo. App., 231.

‡ Kling *vs.* City of Kansas, 27 Mo. App., 231.

* Heuston *vs.* Simpson, 115 Ind., 62, N. Y. C. and St. L. Ry. Co. *vs.* Mushrush, 11 Ind. App., 192.

† Raymond *vs.* B. C. R. and N. Ry. Co., 65 Ia., 152.

vs. Marion,* the court very justly went much further. Here the questions were asked by the physician, as contended by the defendant's counsel, for the purpose of learning whether the railroad company was to blame for the injury. But the court said: "The physician has no business to interrogate his patient for any purpose or object other than to ascertain the nature and extent of the injury, and to gain such other information as was necessary to enable him to properly treat the injury and accomplish the object for which he was called professionally; and such communications are privileged, and he can not disclose them. If the physician took advantage of the fact of being called professionally, and while there in that capacity made inquiries of the injured party concerning matters in which he had no interest or concern professionally, or for the purpose of qualifying himself as a witness, he can not be permitted to disclose the information received. The patient puts himself in the hands of his physician. He is not supposed to know what questions it is necessary to answer to put the physician in possession of such information as will enable the physician to properly treat his disease or injury, and it will be conclusively presumed that the physician will only interrogate his patient on such occasions as to such matters and facts as will enable him to properly and intelligently discharge his professional duty, and the patient may answer all the questions propounded which in any way relate to the subject or to his former condition, with the assurance that such answers and communications are confidential, and can not be disclosed without his consent." Nor, as shown in an earlier part of this chapter, will it make any difference with regard to the seal of secrecy placed upon the lips of the physician that he was employed and paid by the railroad company, or party accountable for the accident, provided the relation of physician and patient actually exists.†

In conflict with the above cases is that of Kansas City, Fort Scott, and Memphis Railroad Company *vs.* Murray,‡ wherein the court held that it was allowable for a physician to state that his patient told him he was leaning over the edge of a car and negligently fell off, causing the injury. The court based this decision squarely upon the ground that the statement in question did not relate to the injury or ailment for which he was being treated, but referred to circumstances preceding the injury. This case, it will be observed, is in direct conflict with those preceding, which are thought to present the better view of the law.

In harmony with those decisions, representing a liberal construction of the statute, a physician was precluded in New York from disclosing statements made to him by his patient regarding the condition of her health previous to the time she came under his professional care.*

The law, in order to adequately protect all matter confided to the physician, not only seals his lips, but guards every avenue whereby such information might be improperly disclosed. Thus, in a New York case, the court refused to direct that a physician's original books of account, which contained information regarding the nature of the maladies of his patients, be turned over to a receiver, who under ordinary circumstances would have been entitled to their possession. The court, in assigning the reason for its refusal to grant the order, said: "In the complicated affairs and relations of life, the counsel and assistance of clergymen, physicians, surgeons, and those learned in the law often become necessary; and to obtain it, men and women are frequently forced to make disclosures which their welfare, and sometimes their lives, make it necessary to keep secret. Hence, for the benefit and protection of the confessor, patient, or client, the law places the seal of secrecy upon all communications made by those holding confidential relations, and the courts are prohibited from compelling a disclosure of such secrets. The safety of society demands the enforcement of this rule." * A like conclusion would undoubtedly have been reached by the court of every State having a statute protecting this class of information.

(*To be continued.*)

Pith of Current Literature.

The Treatment of Typhoid Fever.—Dr. Reginald H. Fitz, of Boston (*Boston Medical and Surgical Journal*, November 23d), says that the conclusions reached from a study of the records of the Massachusetts General Hospital for the past seventy-eight years on typhoid fever with regard to mortality, intestinal hæmorrhage, perforation, and relapse are as follows: 1. The treatment of typhoid fever does not differ in essentials from the principles laid down in 1839. 2. The average mortality from this disease has not materially changed from the days of active treatment with emetics, purgatives, venesection, antimony, and calomel down to the present time. 3. Intestinal hæmorrhage, perforation, and relapse, upon the whole, are quite as frequent now as at any period in the history of the disease. 4. A considerable variety in diet may be permitted not only without detriment, but also with possible benefit to the patient.

The Treatment of Goitre.—Dr. Albert J. Bouffleur (*Medicine*, November) says that from our present knowledge of goître the following general conclusions seem justifiable: 1. Successful treatment depends upon accurate and early diagnosis of the nature of the goître. 2. Struma should be treated by the internal use of iodine or thyreoid extract and the intraparenchymatous injection of iodoform or carbolic acid. 3. If these fail, either enucleation or partial thyreoidectomy is indicated. 4. Adenoma should be treated by enucleation if the tumor is small, and by partial thyreoidectomy if of large size. 5. Cysts should be treated by evacuation and injection of carbolic-acid solution or iodoform emulsion. 6. If this fails, they should be enucleated. 7. Sarcoma and carcinoma should be treated by complete removal of the thyreoid gland, with subsequent administration of thyreoid extract. 8. The treatment of exophthalmic goître is generally unsatisfactory, and at the present time surgical measures promise the best results. 9. Undifferentiated goître may be treated by thyreoid extract and iodine, but intraparenchymatous injections, and if necessary operative treatment, should be employed early. 10. The surgical treatment of all varieties of chronic goître is, generally speaking, the most successful and most satisfactory.

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* The Penn. Co. *vs.* Marion, 123 Ind., 415.

† Louisville, etc., R. R. Co. *vs.* Berry, 9 Ind. App., 63; Citizens' Street R. R. Co. *vs.* Stoddard, 10 Ind. App., 278.

‡ K. C., Ft. S., and M. Ry. Co. *vs.* Murray, 55 Kan., 336, 40 Pac. Rep., 646.

* Baker *vs.* Cunard Steamship Company, 91 Hun, 495.

* Kelly *vs.* Levy, 8 N. Y. Supp., 849.

The Treatment of Syphilis.—Mr. A. H. Ward, surgeon to the London Lock Hospital (*British Medical Journal*, October 21st), thus sums up his conclusions in a paper read before the British Medical Association: "Mercury should be used alone in primary and secondary syphilis, unless severe lesions are present. Treatment should be begun at the earliest possible moment. The drug should be given in a form easy to take, and not irritating to the stomach. It should be carefully pushed to the toleration point indicated by slight touching of the healthy gums. When the toleration point is reached, the mercury should be kept up to that point throughout the course; never higher, lest the patient be poisoned; never lower, lest sporing instead of destruction of the microbes occur. The course should continue for two years, that being the period of natural cure or real latency. Iodides should not be used as routine treatment in the primary and secondary stages, because, by removing the toxine, the phagocytes will be no longer attracted to the microbes, and encapsulation and destruction will be hindered. Iodides together with mercury to be used in increasing doses in the gummatous stage; later a mild mercurial course is advisable. In intractable cases, with chronic blood poisoning and severe lesions, a large quantity of water taken daily facilitates the excretion of the toxine, and in the shape of Zittmann's decoction is undoubtedly very effectual. Finally, it is my conviction that the point of central importance in the treatment of syphilis is to push the mercury to the toleration point, and to keep it there throughout the case. This is the final sum of my experience."

The Infectivity of Malignant Growths.—Mr. Bellingham Smith and Dr. Washbourn (*Lancet*, October 28th) recently communicated to the Medical Society of London a paper on this subject as a result of theoretical, clinical, and experimental researches. The authors sum up their conclusions as follows: 1. A malignant growth might be regarded as local in origin and as possessing the power of infecting adjacent and distant parts of the same individual. 2. Inoculation might take place from one part to another of the same individual apart from transference by the natural channels. 3. There was good evidence to show that one individual might be infected with growth from another. 4. There was experimental evidence to show that growths might be transferred from animal to animal of the same species by inoculation. 5. There were found in many malignant growths bodies which had a resemblance to micro-organisms and which had been regarded as belonging either to the protozoa or the blastomycetes. 6. A new growth having the structure and also the behavior of carcinoma had been described as occurring, at any rate, in two instances from inoculation with a form of blastomyces. 7. These experiments were highly suggestive that the bodies found in cancer were the cause of the disease, though the evidence was wanting that directly associated the two.

The Treatment of Ringworm.—According to the London correspondent of the *Medical News* for November 11th, a most ingenious little appliance for the treatment of obstinate cases of ringworm was recently displayed by Dr. Phineas Abraham in a clinical demonstration at the London Polyclinic. It was born of the recognition of the fact that in chronic cases of great persistence, such as we have all had painful experience of, the principal stronghold of the tinea is not in the skin of the scalp, but deep in the follicles of the hair, into which, of course, ordinary ointments rubbed or solutions painted upon the surface of the skin could hardly by any means be got to penetrate. Its principle was suggested to Dr. Abraham by the process by which blocks for wood paving are saturated with creosote *in vacuo*. These are placed in a retort from which the air is rapidly exhausted by an air pump, and then creosote in the form of vapor is introduced, and as the result of the "vacuum" having penetrated some distance down the tubes and fibres of the wood the vapor is literally sucked or drawn completely through and through the mass. This process is imitated in a lesser degree upon the scalp by a small bell jar with a rubber rim, which, after the scalp has been thoroughly cleansed with alcohol and ether, is pressed upon the area desired to be treated and the air within rapidly exhausted by a small syringe pump. When the tissues have been well sucked up into the cavity of the cup a cock in the bottom of a small tube of creosote is opened and the drug, in the form of vapor, pours into the vacuolized tissues. Dr. Abraham has found it of great practical value in sterilizing not merely the surface, but even the depths of the hair follicles, and by this means alone has succeeded in curing many obstinate cases which had defied all other methods of treatment.

Conservative Surgery on an Arm completely Crushed by a Locomotive.—The following case, showing how by patience a serviceable limb may sometimes be saved in almost hopeless cases, is reported by Dr. S. L. Kilmer in the *Virginia Medical Semi-Monthly* for October 13th:

About three o'clock in the morning of October 26, 1897, he was called to attend a yard switchman in the employ of the Lake Shore and Michigan Southern Railway, at South Bend, Indiana. In turning to step from the foot-board of the engine, the man had slipped and fallen in front of the engine, which at that moment started. The engine, in running over him, had dragged him for some distance. Perhaps he caught hold of some part of the engine to protect himself, but in any event he was dragged over the ties for some thirty or forty feet. His left arm lay across the rail, and one or more wheels of the engine ran squarely over it, crushing the bones into short lengths and fragments, and mangling and crushing the soft tissues in the usually frightful manner in such cases. There was also a scalp wound of some four inches in length, extending to the skull.

After a primary examination, the patient was removed to the Epworth Hospital, where a more careful examination of the arm was made, and the foregoing description was found to be not in the least exaggerated. Dr. Kilmer's first impulse was to amputate the arm above the elbow, as being the proper course to pursue in consequence of the terribly mangled condition of the entire forearm. However, he remembered having read, not long previously, the results of a German surgeon who had for some time made a specialty of endeavoring to avoid amputation in all cases where it was possible to do so, leaving, practically speaking, amputations to Nature, under the opinion that Nature was more conservative than art as practised by the surgeon, and a better judge of the actual requirements than he. His method was simply to assist Nature when it was evident that she was performing an amputation; and thus to ascertain whether it were not possible to save many cases which, under the usual practice, had been sacrificed. His success had been so marvelous as to even astonish himself—saving many limbs that appeared hopeless, and a generous portion of the limb of many others—to the great benefit of the patient.

The author was the more easily inclined to believe that it would be perhaps justifiable to make the effort in this case to save the arm, despite its almost hopeless outlook, inasmuch as the arteries had fortunately escaped severing, as indicated by their continued pulsation—although it was feared their injury might cause them to slough, and thus bring on secondary hæmorrhage.

The decision being made, Dr. Kilmer enlarged one of the openings, from which protruded bones and mangled flesh, sufficiently to enable him to examine carefully with the fingers the entire interior. He removed with scissors a large amount of comminuted soft tissue; one section of the radius, two inches and three quarters in length, which was entirely free from the soft tissues, was also removed, together with a number of fragments of bones of various sizes. A portion of the ulna, two inches and a quarter in length, being still attached to some of the soft tissues, was permitted to remain, with the hope that it might perhaps receive a sufficient amount of nourishment to protect its vitality.

After having thoroughly irrigated the vast cavity within the forearm, and trimmed off as much as possible everything that was beyond the possibility of reparative process, drainage was provided for, and the fragments of bone were replaced in as natural a position as possible. The arm was extended and laid upon a straight posterior board splint, extending from the axilla beyond the finger tips, carefully packed in a gauze dressing, and light bandages were applied. Strict asepsis was of course out of the question in this case, but the general principles of antiseptic treatment were complied with as closely as possible under the circumstances.

The next day there was, as was to be expected, a great deal of tumefaction, the swelling extending well up to the axilla; the skin over the forearm, and extending some distance above the elbow, was much discolored, almost black; while the temperature was 101° F. On the following day the conditions were worse, and Dr. Kilmer began to fear that a great error had been made in the attempt to save the arm. However, the condition remained, practically speaking, stationary for several days, and then began a profuse purulent discharge. There were formations of pus at various places between the elbow and wrist; in fact, there was a generally suppurating condition of the entire forearm, necessitating the free use of the lance, so that the whole forearm resembled a sieve or bag, and upon irrigating with some little force, the fluid would discharge from half a dozen different openings.

After a few weeks a splint was constructed, composed of longitudinal iron bars, so curved as to allow free access to the openings in the forearm, and at the ends of the bars leather straps and buckles, by which the splint was held in position; the bones were again arranged as correctly as possible, and free drainage provided for. The limb could thus be handled and dressed without the removal of the splint. The discharge was very free for a period of probably two months, necessitating a change of dressing twice a day. Eventually, however, the swelling subsided greatly, the discharge diminished, and the general appearance of the arm improved. About this time he left the hospital for his home, coming to the doctor's office every day or two for treatment for several months longer. There was still considerable discharge, and it was evident there was some necrosed bone remaining. On the 9th day of May, 1898, an opening was made on the anterior or palmar surface of the forearm near the wrist, and the portion of the entire diameter of the shaft of the ulna, two inches and a quarter in length, referred to above as being left in the hope that it would survive, was easily removed, being found lying in a cavity of its own, entirely freed from all other tissues, and dead.

The periosteum had unfortunately failed to produce new bone, as was hoped, and apparently the contraction of the muscles had crowded out of position the portion of necrosed ulna, approximating the extremities of the fragments of the bones, between which there was a ligamentous union only. The wound was closed and speedily healed. The result is satisfactory, as the arm is quite useful, the patient having considerable power of flexion of the thumb and all the fingers, which enables him to hold a book or other object in his hand very comfortably. The ligamentous union, although quite short, unfortunately still permits the hand to droop, so that the arm becomes decidedly curved. This can, however, be corrected by wearing a splint for a few days, which serves to correct the position of the bones, or did until some months since. There is, however, now a contraction of the muscles, a slipping of the extremities of the bones over each other, and a shortening of about three inches. The arm is entirely well at this time—that is to say, it is entirely healed and is painless. The ligamentous union and the natural weakness incident to the terrible injury to the soft tissues make it of course a very imperfect arm, but it is in a very much better condition, and much more serviceable than would have been any artificial arm that could have been put on the stump, had it been amputated.

Proceedings of Societies.

AMERICAN LARYNGOLOGICAL ASSOCIATION.

Twenty-first Annual Congress, held in Chicago, Monday, Tuesday, and Wednesday, May 22, 23, and 24, 1899.

The President, Dr. William E. Casselberry, of Chicago, in the Chair.

(*Continued from page 760.*)

Pemphigus Chronicus Vulgaris of the Larynx and Mouth.—Dr. J. H. Bryan read a paper with this title. (See page 775.)

A Case of Hysterical Larynx.—Dr. F. E. Hopkins reported the case. (See page 811.)

Recurrence of the Tonsil after Excision.—Dr. F. E. Hopkins read a paper with this title. (See page 812.)

Dr. John W. Farlow, of Boston: Unless the tonsil has been completely removed there may remain in its deep-lying tissue a certain amount of follicular inflammation which keeps up a decided irritation and thus leads to enlargement and regrowth of the tonsil. This is particularly so in the lower part of the tonsil near the base of the tongue, where small prolongations are not removed. These extra projections or lobes often remain behind in the ordinary operation with the guillotine. This is a most useful instrument, but often requires to be supplemented by the scissors, snare, or punch. The object should be to remove as much of the tonsil as possible, and the anterior pillar is not by any means the external limit of diseased tonsillar tissue. We can do much more thorough work and have fewer recurrences if we give up the idea that all that is necessary in amygdalotomy is to make one cut with the guillotine, with the anterior pillar as a guide. In adults, but not often in children, there is a marked development of the so-called *tonsillar fold*, which spreads over the lower part of the tonsil and conceals it. This may be mistaken for the anterior pillar and the part of the tonsil behind it escapes removal.

Dr. James E. Newcomb, of New York: I quite agree with what Dr. Farlow has said, and Dr. Hopkins has done a wise thing in calling our attention to this subject. It seems to me that without this perfect technique which Dr. Farlow has described and demonstrated there is a certain amount of lymphoid tissue left at the bottom of the tonsil. I think that frequently among the dispensary class of patients, those coming from tenement houses and going back to the same bad, unhygienic environment and the same conditions which have originated the original disease, are very often apt to return with a recurrence of the tonsil after excision. I have had some cases in which I have done what I believed to be a thorough operation, satisfying myself by inspection of the case three or four weeks afterward that the tonsil had been completely removed, yet I have seen such patients reappear with enlarged tonsils. This recurrence is not so striking in the better class of patients.

I should like to ask Dr. Farlow if he ever uses the snare in cutting out these tonsillar fragments.

Dr. Farlow: I have removed many tonsils and fragments with the snare. In those cases I have sometimes been able to remove the tonsillar tissue so completely that there has been no possibility of recurrence. The cases have been examined subsequently and no tonsillar tissue has been left, the tonsil having been entirely enucleated.

Dr. G. V. Woollen, of Indianapolis: A tonsil can not recur if it has been thoroughly enucleated. That is a fact which I think we all must recognize. I had the temerity to say at the American Medical Association in 1887 that there was no such thing as a tonsil, physiologically or anatomically speaking; that it was a pathological product, pure and simple. I have yet to retract that assertion, and I always look upon a tonsil as I do upon a wart or papilloma, or any extraneous growth, not always needing removal. When I have a tonsil which demands removal, I try to do it thoroughly. I have seen, at home and abroad, indications that would lead to just such reports as we have here—namely, that so long as we have a part of the tonsil left we may have a proliferation of tissue, just as we had originally. I have discontinued the use of the word removal or the word excision, or any such words as applied to the tonsil. The enucleation of the tonsil can be done with the guillotine; not, however, with the guillotine furnished by the instrument makers. One of the most misleading things in this surgical appliance is the elevator of the fork attached to the amygdalotome. I have taken this off; I use the French amygdalotome. I have the patient hold the tongue depressor, as it is desirable to engage his attention as much as possible. I raise the tonsil with a volsella, so as to determine what amount of tonsillar tissue I wish to remove and see where its attachments are, drawing it out from behind the pillars, through the ring of the guillotome previously adjusted, then by means of the guillotine I seize the tonsil and cut where I desire. It should be a most deliberate operation. Since adopting this procedure I have not had many cases of recurrence. After I have taken the tonsil out, I examine the lacunæ with a probe to see whether they are perforated or not, and thereby I determine whether there is any tonsillar tissue left to give further trouble. I have been surprised how by this procedure I could enucleate the tonsil, simply taking it out of its bed and leaving the pillars intact. Some of the worst cases of peritonsillar abscess that I have ever seen have arisen from small portions of tonsil left behind.

Dr. D. Braden Kyle, of Philadelphia: Whether we have to deal with the tonsil as a physiological or pathological structure it matters little. Where it is of a low grade gland structure, and in at least the majority of cases, I agree with Dr. Woollen that it is pathological, and I also believe that it is more of a benign growth—a hyperplasia. In some cases there is no doubt that the tonsil recurs after excision. I have a number of sections in my laboratory showing various pathological alterations in tonsillar tissue, and I find in the few in which recurrence has taken place that the tissue largely resembles that of an adenoma. I think in some cases this fact possibly explains why we have recurrence—we are dealing in such cases with a benign growth and not a simple tonsillar structure.

Dr. G. Hudson Makuen, of Philadelphia: In my experience the tendency for the tonsil to recur after operations has been rare, and in this respect my experience differs from that of Dr. Hopkins. The chief cause of recurrence, as has been said, must be a lack of thoroughness in its removal. The general surgeon amputates the tonsil and, as Dr. Farlow has said, part of it is left in behind the pillars; thus the last condition is worse than the first, because it leaves room and an opportunity for secretions to gather and cause further trouble. I think that the reason why amygdalotomy is looked upon with such disfavor is that the operation is not properly done. I would remove the operculum or fold referred to by Dr. Farlow as well as the tonsil. If you dissect the tonsil out from behind the fold you will leave a cup-shaped pocket for the collection of secretions and particles of food, and this becomes a source of irritation and infection.

I have devised a set of instruments for dissecting the tonsil away from the anterior and posterior pillars prior to the operation for amygdalotomy. This is a very important thing, for it enables the operator to do a more thorough operation.

Dr. Hopkins (closing the discussion): My only object in presenting this paper before the association was to have the matter of recurrence of the tonsil after excision take its proper position. With one exception our text-books are silent on the subject, and current papers do not refer to it. Recurrence does occasionally take place, and I thought that what the members of the association might have to say on the subject would tend to give it proper recognition and an authoritative position.

(To be continued.)

Book Notices.

The International Text-book of Surgery. By American and British Authors. Edited by J. Collins Warren, M. D., LL. D., Professor of Surgery in Harvard Medical School, etc., and A. Pearce Gould, M. S., F. R. C. S., Surgeon to Middlesex Hospital, etc. Volume I. General and Operative Surgery. With Four Hundred and Fifty-eight Illustrations in the Text and Nine Full-page Plates in Colors. Philadelphia: W. B. Saunders, 1899. Pp. 7 to 947. [Price, $5.]

Although manuals, text-books, and treatises on both operative and descriptive surgery have appeared in quick succession for the past few years, it is worthy of comment that they have not been able to do more than keep pace with its rapid strides. Good, bad, and indifferent works have come to our notice; we have, however, seen nothing better and few quite so good as the volume before us. No single pen can produce a work on all branches of surgery with the same success as can be achieved by the divided efforts of writers whose subjects have been carefully selected to meet their special qualifications. The contributors are all men firmly established as leaders in the profession, and their signatures stand as a guarantee of their articles.

The editors have wisely divided the work into two volumes, with the arbitrary but convenient separation into general surgery, to which the first volume is devoted, and special surgery, which will appear later in volume ii. The opening chapters differ but slightly from those of standard works by other authors. The addition of a chapter on the surgical pathology of the blood, seldom seen in a general work, is to be commended, for in accident cases we are often assisted in distinguishing nervous shock from shock due to hæmorrhage by a proper examination of the blood. Again, in the diagnosis between such conditions as "pus tube" and hæmatocele, the blood count will often be found useful. The systematic examination of the blood will often materially assist us in determining the probability of the recurrence of malignant neoplasms after operations for their removal.

A few pages are devoted to minor and operative surgery, including the subjects of amputations, excisions of joints and bones, osteotomy, and plastic surgery. Of the section on minor surgery, the greater part of the text is devoted to the proper methods of bandaging and to the practical uses of local anæsthesia, followed by a well-written chapter on surgical anæsthesia, general and local. We note that no complicated ether inhaler is advocated, but the simplest is advised. The writer states that "from the earliest days of modern anæsthesia, the most common method of administering ether has been upon a towel folded in the shape of a bowl and stiffened with paper placed between the two outer layers, which serves partially to confine the vapor. Every patient should take his anæsthetic, whatever it may be, from a thoroughly clean and fresh inhaler, as no other is either safe or decent."

About two hundred pages are given to fractures and dislocations, covering the more important injuries; following we have chapters on the diseases of bones and joints, including orthopædic surgery, the surgery of the spine, peripheral nerves, heart and blood-vessels and the lymphatics, and cranial surgery.

Surgical Anatomy. A Treatise on Human Anatomy in its Application to the Practice of Medicine and Surgery. By John B. Deaver, M. D., Surgeon-in-Chief to the German Hospital, Philadelphia. In Three Volumes. Illustrated by about Four Hundred Plates, nearly all Drawn for this Work from Original Dissections. Volume I. Upper Extremity; Back of Neck; Shoulder; Trunk; Cranium; Scalp; Face. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. xiv–17 to 632.

For the sake of convenience, the subjects treated of in the first volume of this work have been divided in such a way as to present in order the regions of the upper extremity, the back of the neck, the shoulder, the trunk, the cranium, the scalp, and the face. The surface anatomy of the upper extremities commands our first attention. The importance of surface markings is forcibly called to our notice in a most lucid and attractive way, which at once forces us to realize the undoubted qualifications of the author for the great task set before him. All general anatomical features which could be of interest to the reader are carefully portrayed in a number of beautifully executed illustrations including drawings of the ulnar deflection, also comparative views of normal and dislocated shoulders, together with demonstrations of surface markings, indicating the position of joints and the structures lying beneath.

The lines of skin incisions for dissection differ somewhat from those adopted in most of our text-books, and, we think, to great advantage, leaving as they do a most perfect covering, thus better preserving the underlying structures for future work.

The author next devotes himself to the dissection of the parts, and expresses his ideas and knowledge in a clear and forcible style which makes the reading as attractive as the rather dry subject will allow. The articulations, with their protective bursæ, have been given special attention. Here, as elsewhere in the treatise, we note a leaning in favor of the more practical side of anatomy, fractures and dislocations, with their ætiology and pathological anatomy, occupying considerable space. The section concludes with a full consideration of amputations, resections, ligation of arteries and stretching of nerves, with eighteen full-page illustrations showing the dissections necessary for the ligation of arteries and the exposure of nerves.

The consideration of the surgical anatomy of the back of the neck and trunk takes up the next section. The same general lines of the previous chapter are adopted. Of more than ordinary interest is the dissertation on the different forms of spinal curvature, including, as it does, two full-page drawings illustrating their characteristic deformities.

The illustrations have, for the most part, been taken from original dissections especially prepared for this work. Drawings, as a rule, are perhaps not quite so realistic as photographs of the actual dissection, but they are much more instructive; we therefore think the author has been wise in adopting them. The drawings are all carefully prepared, and the writer's tribute to the artist, in his preface, is well merited. The clearness and beauty could perhaps be slightly improved upon by the addition of a little color.

The author, as stated in his preface, has devoted the past twelve years to preparing the complete treatise, and if volume i is an index of those to follow, we consider the time spent insignificant as compared with the long life which the book has before it. We have in this volume a work which certainly equals anything of the kind we have hitherto seen.

Practice of Medicine. A Manual for Students and Practitioners. By George E. Malsbary, M.D., Assistant to the Chair of Practice, Medical College of Ohio, University of Cincinnati, etc. Series edited by Bern B. Gallaudet, M. D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York, etc. Illustrated with Forty-five Engravings. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. 3–404. [Price, $1.75.]

The author states in his preface that "medical progress is so rapid in our day that manuals have special value, in that they may be published in the shortest possible time, and thus place before the reader the most recent advances in medicine. Moreover, a brief epitome presents the subject to the busy practitioner and student in a form more readily accessible than is possible in a lengthy treatise."

Brevity is undoubtedly a prominent feature of this work. Some of the subjects, we fear, have suffered, however, from their treatment being rather too much curtailed; in fact, some of the less common diseases have not been given more than sufficient space for a proper definition. The writer frequently refers to the standard authors of the day, and with their aid has succeeded in giving us the very latest information obtainable, all of which we can heartily indorse.

The chapters on the diseases of the stomach are especially commendable, but even here we find the concluding lines rather too abrupt, for the possible sequelæ are dismissed with the remark "complications call for appropriate treatment," a well-recognized platitude, which, however, leaves too much to be inferred.

Traité de médecine et de thérapeutique. Publié sous la direction de MM. P. Brouardel, Doyen de la Faculté de médecine de Paris, et A. Gilbert, Professeur agrégé à la Faculté de médecine de Paris. Tome sixième. Maladies du cœur, des artères, de l'aorte, des veines, du système lymphatique et du sang. Par MM. Pierre Merklen, H. Roger, A. Gouget, E. Boinet, F. Widal, F. Bezançon, E. Parmentier. Paris: J.-B. Baillière et fils, 1899. Pp. 1000. [Prix, 12 fr.]

This volume maintains the high standard of excellence established by the preceding volumes of the work. Possessing the same admirable qualities which have characterized them—uniformity of merit in the several contributions, critical appreciation of recent advances in medical knowledge, logical discussions of ætiology, picturesque descriptions of symptoms, rational views of treatment—it compares favorably with the corresponding volumes of the numerous contemporaneous systems of medicine.

The first section of the book, a thorough and comprehensive treatise by Merklen on diseases of the heart, forms nearly one half of its bulk. The first two chapters describe in an unusually graphic and interesting manner the functional and physical signs of disease of the heart. The following chapters treat of the diseases of the pericardium, endocardium, coronary arteries (this title including coronary arteritis, angina pectoris, infarcts, rupture, and partial aneurysms of the heart), and myocardium. The best parts of these chapters are the descriptions of cardiac syncope, angina pectoris, and chronic myocarditis. Another noteworthy chapter, that on the complications of cardiac disease, contains an exceedingly instructive discussion of *asytolie*, the title, "etymologically incorrect, but consecrated by usage," given by the French school to the *ensemble* of symptoms resulting from cardiac insufficiency.

The discussion of diseases of the arteries by Roger and Gouget, which constitutes the second section, is not only rich in suggestions to the practitioner, but also in thorough accord with the most advanced doctrines. In the following section the diseases of the aorta are presented with considerable fullness of detail. An equally detailed account of the diseases of the veins is given by Widal and Bezançon. In a chapter on disease of the lymphatic system Bezançon deals chiefly with the rôle of this system in general and localized infections.

The final section, on diseases of the blood, by Parmentier, is prefaced with a description of the physiology and morphology of the blood, its changes in disease, and the methods of examining it. The author, ignoring the Thoma-Zeiss and Fleischl instruments, recommends the inferior and less convenient methods of Hayem. The presentation of the special blood diseases is thoroughly up to date: indeed, we must suspect that the author enjoys some insight into the future when he declares that the unity of leucæmia and Hodgkin's disease (the doctrine taught by French writers generally) is "definitely decided."

BOOKS, ETC., RECEIVED.

Encyclopædia Medica. Under the General Editorship of Chalmers Watson, M. B., M. R. C. P. E. Volume I. Abdomen to Bone. New York: Longmans, Green, & Co., 1899. Pp. vi–579.

Surgery. A Treatise for Students and Practitioners. By Thomas Pickering Pick, Senior Surgeon to the Victoria Hospital for Children, etc. London and New York: Longmans, Green, & Co., 1899. Pp. xix–1176.

Notes on the Modern Treatment of Fractures. By John B. Roberts, A. M., M. D., Professor of Surgery in the Philadelphia Polyclinic, etc. With Thirty-nine Illustrations. New York: D. Appleton and Company, 1899. Pp. vi–162. [Price, $1.50.]

The Modern Treatment of Wounds. By John E. Summers, Jr., M. D., Surgeon-in-Chief to the Clarkson Memorial Hospital, etc. Omaha, Nebraska: The Medical Publishing Company, 1899. Pp. viii–149. [Price, $1.50.]

Coca and its Therapeutic Application. By Angelo Mariani. With Illustrations. Third Edition. New York: J. N. Jaros, 1899. Pp. 67.

Chirurgie du foie et des voies biliaires. Par J. Pantaloni (de Marseille). Avec 348 figures dans le texte. Paris: Institut de bibliographie scientifique, 1899. Pp. xiv–625.

Transactions of the American Surgical Association. Volume the Seventeenth.

New Laboratory Apparatus: An Improved Hydrogen Generator. By W. M. L. Coplin, M. D., and P. A. Sheaff, of Philadelphia. [Reprinted from the *Journal of Applied Microscopy.*]

The Tuberculosis Crusade and its Problems. By Charles Denison, M. D. [Reprinted from the *Journal of Tuberculosis.*]

Excision of the Superior Cervical Sympathetic Ganglion for Glaucoma, with a Report of a Case. By George F. Suker, M. D., of Toledo, Ohio. [Reprinted from the *Ophthalmic Record.*]

Spencer's Disease: Dermatitis Multiformis Exfoliativa. By Walter Spencer, M. D., of Sydney, N. S. Wales.

Ovarian Multilocular Cystic Tumor, existing for Thirty-five Years without destroying Life, the Woman dying from Influenzal Bronchitis at the Age of Seventy-four Years. Repeated Tappings. By De Forest Willard, M. D., and S. M. Wilson, M. D., of Philadelphia. [Reprinted from the *Transactions of the College of Physicians of Philadelphia.*]

Osteotomy. By De Forest Willard, M. D. [Reprinted from the *Journal of the American Medical Association.*]

A Plea for the Treatment of Typhoid Fever by Cold Baths. By Charles Shattinger, M. D., of St. Louis. [Reprinted from the *Medical Review.*]

A Case of Diabetes Mellitus quickly following Mumps. On the Pathological Alterations of the Salivary Glands, closely resembling those found in the Pancreas, in a Case of Diabetes Mellitus. By H. F. Harris, M. D., of Philadelphia. [Reprinted from the *Boston Medical and Surgical Journal.*]

Acromegaly, with a Report of a Case presenting some Unusual Features. Height of Patient, Eight Feet and Six Inches. By William Nicholas Lackey, M. D., of Gallatin, Tennessee. [Reprinted from the *Philadelphia Medical Journal.*]

The Propagation of Diseases by Means of Insects, with Special Consideration of the Common Domestic Types. By W. M. L. Coplin, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal.*]

New Inventions, etc.

A PORTABLE OPERATING TABLE (WEIGHING LESS THAN TWENTY-THREE POUNDS).

By J. Bentley Squier, M. D.,

ATTENDING SURGEON TO THE ALMSHOUSE HOSPITAL, NEW YORK.

About a year ago, acting upon the suggestion of Dr. F. H. Markoe of this city, I designed a light, portable operating table of bicycle tubing, with the special purpose of producing a table which could easily be carried by hand or in a coupé for operations in private houses, and yet should not sacrifice to mere lightness any of the essential features of a good and convenient operating table.

The definitive design has now been in use for some months and has proved to be so useful, because of the convenience with which it can be carried, the rapidity and ease with which it can be assembled or taken apart, the simplicity of mechanism, and the absence of loose parts, that I have been induced to publish its main features.

While extreme lightness has been aimed at in its construction, strength has not been sacrificed, for the table will sustain a weight of five hundred pounds, and extreme rigidity has been obtained by a system of sliding braces.

The dimensions of the table when set up are: thirty-four inches high, nineteen inches wide, and seventy inches long (see Fig. 1). These measurements are more or less arbitrary, and by arrangement with the maker the surgeon can have slight changes in dimensions carried out without material alteration in weight.

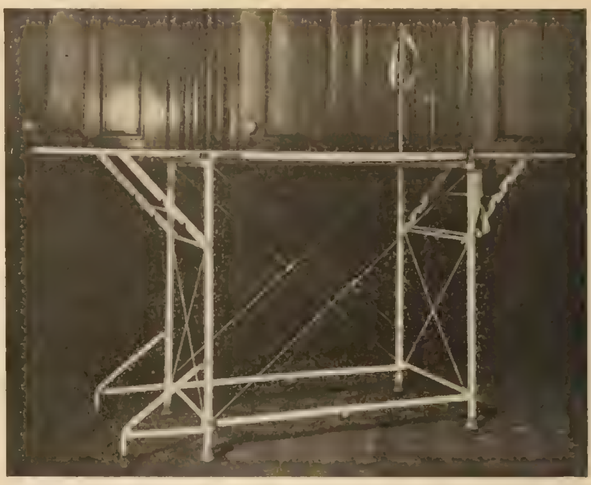

Fig. 1.

The material for construction of the standards and side bars is seamless steel bicycle tubing; the frame of the bed is made of angle iron and the bed itself of broad bands of thin steel arranged as lattice-work.

The bracing is carried out by means of four steel wires which cross diagonally from top to bottom of the standards. These braces are divided at the centre and held together by a steel collar which allows them to slide on each other. The bed of the table is made in three leaves and is detachable from the standards by merely releasing two thumb springs. It can then be packed in a space thirty-four inches by nineteen inches by two inches by folding the end leaves over the middle one, each end leaf being just one half the size of the middle (Fig. 2). The four side bars joining the legs are fitted at their centres with rule hinge joints which, by their toggle action, prevent any tendency to collapse when the table is set up, and the top bars are provided with thumb springs as an extra precaution. When these springs are released the side bars fold together, the diagonal wire side braces sliding past one another; the legs, being offset at the bottom, add to the stability

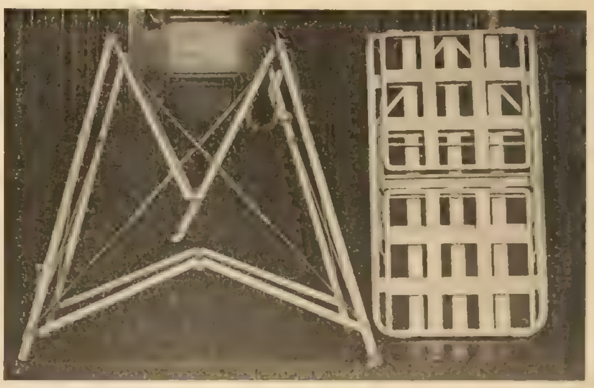

Fig. 2.

and at the same time allow them to fold more compactly. The standards thus folded measure thirty-four inches by eighteen inches by two inches, making the whole table, when packed, to occupy a space only thirty-four inches by nineteen inches by four inches (see Fig. 2).

All the positions ordinarily used in operating can be easily obtained with this table, and the change from one to another can be quickly effected without altering the position of the patient upon the table. By merely pressing down upon the foot leaf of the table the patient can be thrown into the Trendelenburg position in a moment (Fig. 3).

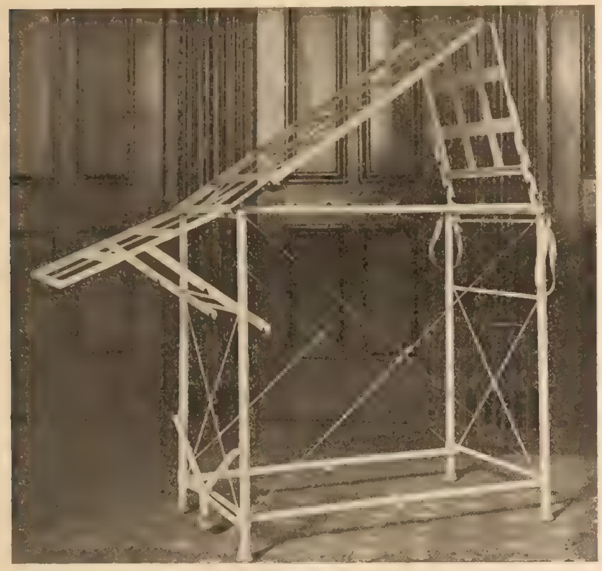

Fig. 3.

A turn-buckle attached to each of the sliding braces makes it possible for them to be readily set up, thus preventing the table from ever losing its rigidity.

29 East Forty-fourth Street.

Miscellany.

What Asepticism in Surgery can do.—Dr. Byrom Bramwell (*British Medical Journal*, October 7th), in an address on Thirty-five Years of Medical Progress, referring to the advantages gained through perfect asepsis, says:

"Some two years ago a man was admitted to the Edinburgh Royal Infirmary, under my care, suffering from Jacksonian epilepsy. Drug treatment having failed to give any relief, the operation of trephining was performed by Mr. Cotterill. A portion of bone the size of the palm of the hand was removed. The dura mater was then freely opened. No gross lesion was detected, though the brain was explored in various directions with a trocar. The large wound in the dura was brought together by a series of catgut ligatures. The portion of bone which had been removed was then carefully replaced, and the scalp wound closed in the usual way, of course under rigid aseptic precautions. The wound healed by 'first intention,' and in the course of a few days the patient had completely recovered from the operation without the slightest pain, fever, or constitutional disturbance. Some three months after the operation the patient died in a fit. On subsequent examination it was found that the portion of bone which had been replaced was firmly and accurately united, the inner table being perfectly smooth and natural. The inner surface of the dura mater was to all intents and purposes absolutely normal. The catgut sutures remained *in situ* in a perfect state of preservation; indeed, they looked as fresh as if they had been introduced the day before. The wound in the dura was united so perfectly and accurately that it reminded me of a beautiful piece of needlework. I doubt whether the most expert seamstress, working with dead tissues (silk, etc.) outside the human body, could have produced a more perfect result."

The Bacterial Treatment of Sewage.—The *Interstate Medical Journal* for October says editorially that it is more than forty years since Pasteur demonstrated that there could be no fermentation without organisms. This principle has been discussed at some length by Mr. D. Pidgeon, who has shown that the invisible microbe is likely to solve the problem of the effective method of sewage treatment.

At the beginning of the present decade certain experiments were made at the town of Lawrence, Massachusetts, which prove that the success in the filtration of sewage depends upon the very slow motion of exceedingly thin films of liquid over the surfaces of particles having spaces between them sufficient to allow air to be in continual contact with the films of liquid; the presence is necessary, moreover, of certain bacteria to aid in the process of nitrification. The experiments further demonstrated the necessity for making the supply of sewage to the filter intermittent, while they afforded a percentage of purification such as had never been obtained before. Of ten filters employed, each containing a different material, four or five removed by oxidation ninety-five per cent. of the nitrogenous impurities contained in the crude sewage, giving effluents which included less organic impurities, as shown by chemical analysis, than most of the drinking-water supplies of the State. The Massachusetts experiments were speedily supplemented by others which were made in England. Notably Mr. Scott-Moncrieff began to study the "biolysis," as he termed it, of sewage, basing his investigations on the consideration that, since all effete substances can be dealt with by Nature without assistance from chemicals, the problem resolves itself into discovering such artificial methods as would enable this agency to deal with the impurities contained in sewage on any scale, however large, at a reasonable cost, without creating a nuisance, and without the use of chemicals. He devised a "cultivation tank," carrying a layer of flints about fourteen inches deep through which the crude sewage runs. This tank is really a *nidus*, suitable for the growth and multiplication of the anaerobic organisms—those, namely, that thrive in the absence of oxygen, and give rise to putrescent fermentation. The fresh sewage, not yet deprived in the sewers of all its oxygen, is attacked on entrance by aerobic organisms, which, as the supply of the vital element at their command in the influent becomes exhausted, leave what remains of the food supply to such anaerobes as find a congenial home in the airless layers of the flint bed. These so thoroughly complete the work of decomposition and final liquefaction that practically no sludge results, while the effluent contains all the solids and liquids which were present in the raw sewage—resolved into simpler forms, indeed, but also deprived of a considerable proportion of the original impurities, which have disappeared by conversion into carbonic acid, marsh gas, hydrogen, and nitrogen. By supplementing the cultivation tank with a nitrifying chamber sufficient assistance is afforded to the aerobic organisms to permit of the process of nitrification being carried to such an extent as to produce a filtrate containing in solution enough nitrates to give it a commercial value. The chamber contains a series of shallow trays, vertically arranged and separated one from another by a few inches of air space. Each tray holds a layer of finely broken coke two or three inches thick, and the topmost of these is evenly dosed at regular intervals with such quantities of the tank effluent as would represent a flow of one million gallons to the acre to the twenty-four hours. The liquid falls through tray after tray until, on reaching the lowest of the series, it is found to contain, in every one hundred thousand parts, from seven to nine parts of nitrates; equivalent to the mineralization of ninety per cent. of the total organic matter contained in the effluent from the cultivation tank. If, as is predicted, the final product of properly biolyzed sewage should contain such a percentage of nitrates as to render it a valuable plant food, it may not, perhaps, remarks Mr. Pidgeon, prove a mere inventor's dream that there will presently gather around the sewer outlets of towns and cities acres of glass houses whose abnormally large production, whether of fruit, flowers, or vegetables, will more than pay interest of money on the original outlay.

Polyandry in Thibet.—The *Indian Medical Record* for October 18th says that in Thibet only the eldest son of the family marries, and the wife accepts the brothers of her husband as secondary spouses. The whole family is thus held to the home. The children belong to the oldest brother, while the younger brothers are lesser fathers. The natives are strongly attached to this custom, the women in particular despising the monotony of European monogamy, and "widow" is a term of reproach among them. Children are very obedient to their fathers and mothers, and the family feeling is strongly developed.

Vaccination and Small-pox.—The *Journal of the American Medical Association* for November 18th says that Dr. Gibbes, health officer of Detroit, Michigan, on November 11th visited those districts near Windsor, Ontario, where several cases of small-pox were reported, and recorded the fact that the disease had not attacked any but non-vaccinated people.

The St. Petersburg Institute of Experimental Medicine, according to the *Archives de pathologie,* cited in the *Gazette hebdomadaire de médecine et de chirurgie* for October 26th, has recently been provided with a laboratory for the study of the plague and for making plague antitoxine. It is situated in the fortress of Kronstadt, surrounded by water on all sides and capable of complete and immediate isolation. There is, however, communication with the city by means of a steamboat.

A British Ambulance for the Boers.—According to the *British Medical Journal* for November 11th, Sir James Sivewright, K. C. M. G., who was commissioner of public works in Cape Colony until last year, has been successful in organizing an ambulance party to go to Pretoria to assist in treating the Boer wounded. He defrays the whole cost of the equipment, and the *Journal* understands that a British line of steamers has arranged to take the whole party to South Africa free of charge. The ambulance party will be in charge of Dr. Gray, of Aberdeen, son of Brigade-Surgeon R. Gray. An Afrikander Home was established in connection with the Edinburgh University some years ago, and has been attended by some eighty students in the various faculties. One of these gentlemen, Dr. Neethling, who took his degree in the university this year, and has since been house surgeon to the Bradford Infirmary, is said to have resigned that appointment and will be one of the surgeons to the ambulance. Ten students from the Afrikander Home in Edinburgh will go out as dressers, and the ambulance staff will also include a nurse. In the selection of the equipment Sir James Sivewright has had the assistance of Mr. James Cantlie, F. R. C. S.

Professor William Osler and Professor Howard Kelly, of Baltimore, were, according to the *Journal of the American Medical Association* for November 18th, elected in October honorary members of the Royal Academy of Medicine in Ireland.

A Combatant Medical Officer.—We learn from the *British Medical Journal* for November 11th that Dr. Rossignon, a Belgian medical officer in the service of the Congo Free State, is said to have done excellent work as a volunteer artilleryman at the capture of Redgaf in 1897. Lieutenant Saroleá and Sergeant Cajol, who were in charge of the guns, were killed, and as they were the only European artillerymen in the expedition the commanding officer was in a serious difficulty. But Dr. Rossignon was equal to the emergency, and without hesitation proceeded to direct the service of the guns. This he did with such success that in recognition of his services the decorations of the Service Star and the Knighthood of the Royal Order of the Lion were conferred on him.

The March of Sanitary Progress.—According to *Science* for November 24th, Dr. W. H. Corfield, professor of hygiene and public health in University College, London, has been appointed to the newly created post of consulting sanitary adviser to the British Office of Works.

Deaths of Medical Men.—The deaths are announced of Dr. Walter J. Hoffman, of Reading, Pennsylvania, formerly a surgeon in the United States Army, who published many important ethnological researches on the North American Indians; Dr. W. C. Arnison, professor of surgery in the University of Durham, England; and Dr. Gonzalo Aróstegni, formerly professor of surgery in the University of Havana.

A Memorial to the Late Dr. Müller, of Vienna.—According to *Science* for November 24th, a memorial of Dr. Müller, who, it will be remembered, fell a victim to the plague in Vienna on October 23, 1898, was recently unveiled in the quadrangle of the General Hospital of that city. Professor Nothnagel delivered an address.

Another Prince Physician.—The *Indian Medical Record* for October 25th informs us that it was expected that "His Highness, Sir Bhagwatsinji, G. C. I. E., M. D., F. R. C. P., LL. D., Thakore Saheb of Gondal," was to return to India from England.

Original Communications.

A CASE OF HOURGLASS STOMACH

(STOMACH *EN BISSAC*).

OPERATION. RECOVERY.

By CHARLES GREENE CUMSTON, B. M. S., M. D.,

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HONORARY MEMBER OF THE SURGICAL SOCIETY OF BELGIUM;
FELLOW OF
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CORRESPONDING MEMBER OF THE PATHOLOGICAL SOCIETY OF BRUSSELS,
OF THE ASSOCIATION OF GENITO-URINARY SURGEONS OF FRANCE,
OF THE OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY OF PARIS, ETC.

Miss W. S., aged forty-seven years, was first seen by the writer in March, 1898. At that time she was complaining of a severe pain in the right side and pain in the epigastric region and occasional vomiting after eating. The patient was a thin, anæmic subject, in a rather despondent condition of mind. Examination revealed what was believed to be a dilated stomach in a state of ptosis and a right-sided ren mobilis.

On the supposition that this was a case of gastroptosis and gastrectasis, the symptoms of which were exaggerated by the presence of a very movable kidney, nephropexy was performed a few weeks later, with the result that the pain in the right side was completely relieved, but the digestive symptoms continued quite as before.

In November, 1898, the patient was again seen, complaining bitterly of her stomach, and a more careful history of the digestive disturbances was obtained, a thing that should have been done in the first place, as the symptoms were far too marked to have been neglected as they were.

At the age of seventeen the patient had typhoid fever and had suffered ever since from what she called indigestion; but at about the age of twenty-six attacks of pain in the epigastric region and vomiting began to occur, and have been more or less constantly present ever since. The attacks of gastric pain occur more especially after a hearty meal, excessive bodily exercise, or mental fatigue, but at no time was any blood vomited or passed per rectum.

The menses have always been regular and painless. Chronic constipation of severe grade has been present for many years, and the patient has frequent attacks of frontal neuralgia. The heart and lungs are normal. Analysis of the urine gave the following results: Specific gravity = 1.016; total amount in twenty-four hours = 1,200 cubic centimetres. Color pale. Reaction slightly acid. Urea, 25.5 grammes to the litre. No albumin nor sugar. Abdominal viscera, excepting the stomach, in apparently normal condition.

I would here remark that the patient's father died at the age of fifty-one of some obscure stomach trouble, from which he had suffered for many years.

As has been said, a dilated stomach had been diagnosticated when the patient was first seen, but we now suspected that the gastrectasis was quite probably due to a benign, or perhaps malignant, stricture of the pylorus, because by palpation a somewhat painful mass could be detected in the left hypochondriac region, which had not been noticed when the patient was examined in March. The splashing sound could be elicited, but auscultation over the back when the patient swallowed water only showed the characteristic normal *glouglou* sound. When the stomach had been moderately distended with CO_2 its lower border was found at about a finger's breadth below the umbilicus. The lower half of the abdomen was retracted.

The vomitus obtained during an attack of pain was a yellow mucus with a decided acid reaction. The stomach was irrigated and a test breakfast, consisting of a cup of tea, one egg, and a roll, was ordered, and the stomach contents were withdrawn two hours later. They were found to be composed of fluid containing about twenty-five cubic centimetres of the roll. After filtering, the analysis showed a considerable amount of free hydrochloric acid and a complete absence of lactic acid.

An exploratory incision was advised and accepted.

The stomach was irrigated morning and evening with a 1-to-1,000 solution of naphthol β for one week prior to the operation, which was done on December 2, 1898.

An incision twelve centimetres long was made, beginning at the outer border of the rectus muscle, midway between the tip of the sternum and the umbilicus, and was carried obliquely downward on the left side. When the abdominal cavity was exposed the pylorus was examined and found perfectly normal. At about the junction of the lower with the middle third of the lesser curve of the stomach was found a strictured portion uniting a normal lower third with a dilated upper two thirds of the viscus. The strictured portion was about seven centimetres wide and three centimetres long, and was united to the surrounding structures by a few tough adhesions. These were broken down by the finger and a few snips of the scissors and the part liberated.

After the stomach had been well drawn out through the abdominal incision, an incision was made on the anterior aspect of the viscus in the longitudinal axis of the strictured portion. The stenosed portion would allow the passage of three fingers. The incision was continued upward and downward for about four centimetres, and when completed measured about eleven centimetres. A Heineke-Mikulicz plastic operation, as devised for the pylorus, was done, and when completed the line of union was about eleven centimetres long.

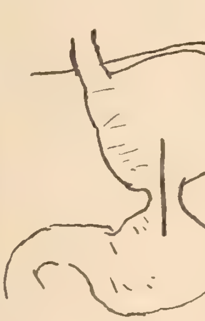

Fig. 1.

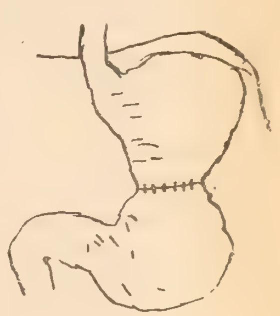

Fig. 2.

The borders were brought together by fourteen interrupted fine silk sutures which were passed through the stomach wall, but *did not include the mucosa or the peritonæum*. The silk sutures were covered by bringing the peritonæum together with Lembert's suture of fine catgut.

The peritonæum, fasciæ, and muscles were sutured with fine chromic catgut, the skin and fat being united with aluminum and bronze wire. The two figures here given show fairly well the condition of the stomach before and after the plastic operation.

The after-treatment was simple and recovery was remarkably rapid. On the afternoon and evening following the operation the patient vomited clots of partially digested blood. The next morning she was feeling well; temperature, 100.4° F.; pulse, 92. Vomiting of blood occurred in the afternoon, but the quantity voided was small.

On the third morning following the operation the patient, who had been fed by enemata, was allowed to have champagne and crushed ice by teaspoonful every hour. Feeding *per os* was begun on the sixth day, and gradually solid food was substituted for a liquid diet, so that just three weeks after the operation the patient was taking meat. The patient was discharged well on January 10, 1899.

I saw the patient in March, 1899, and her general condition was excellent. The appetite was good, the stomach gave her no trouble, and she had gained six pounds and a half in weight.

On June 8th a letter was received stating that her health continued good, and that she was free from all her old troubles.

871 Beacon Street.

THE EARLY DIAGNOSIS OF ANEURYSM OF THE ARCH.*

By WILLIAM PORTER, A. M., M. D.,
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FORMERLY ASSISTANT TO SIR MORELL MACKENZIE.

My subject is one that in its entirety is not within the limits of the definite work of this association. So important, however, are the laryngological symptoms in many cases of aneurysm that it is now well understood that a diagnosis in cases of suspected arch lesion is not complete without laryngeal investigation. Thus it is that I do not hesitate to speak of this subject here, and even to emphasize some methods of interrogation not wholly within our special domain. Those of us who have much to do with the physical examination of the chest well know that there is nothing more difficult than to make a conclusive diagnosis in some of these cases in which the lesion of the aorta is comparatively small, and yet there is no class of cases in which the prognosis is more important.

It is not my purpose to review the whole field of physical exploration, or even to note very fully the more easily recognized symptoms, often so apparent in well-developed aneurysm, but rather to refer to some special points not made prominent in the text-books and to mention one or two suggestions that are almost, if not altogether, new.

While many signs are more or less important, and several of these, combined, may warrant a diagnosis, yet there is only one phenomenon positively characteristic of thoracic aneurysm, and that is the presence in some part of the chest of a pulsating tumor other than the heart, which beats isochronously with the heart, and at least as forcibly, and which at each impulse expands in every direction (Balfour). In this connection it may be well also to remember that the aneurysmal pulsation is usually more forcible than that of the heart.

In the study of the evidences as presented by the average case of aneurysm, the laryngeal symptoms will naturally interest us at first. Let me at the outset recall the fact that pressure upon the recurrent nerve from aneurysm or thoracic tumor does not necessarily produce aphonia. I deem it of value to mention this because it is to be noticed that in many clinical reports the statement is made that the laryngeal evidence was negative because there was no aphonia.

The phenomenon of compensatory arytænoid movement (which formed the basis of a paper by the writer before this association in 1895) is now sufficiently established. The laryngeal image may be seen to be normal in appearance and function except in one respect—where there is paralysis of one recurrent nerve, most frequently the left, the corresponding cord may be seen in the cadaveric position, while the opposite cord may cross the median line and phonation be possible.

In such cases, however, it is impossible that equal tension be made on both cords, and the unequal vibration will produce decided change in the voice—a hoarseness (W. T. Porter), a monotone, and inability to reach a high note (Newman, Mulhall). One or all of these symptoms may be present. Sometimes at the beginning there is not even a loss of movement, but a congestion, consequent, doubtless, upon laryngeal irritation. The only subjective symptom at this stage may be a more or less constant laryngeal cough. In some of these cases, the pressure upon the nerve being increased by the growth of the aneurysm, complete aphonia results.

It has been noticed that a bilateral adductor paralysis may be present when only one recurrent nerve is involved. It is possible (Dr. George Johnson) that one recurrent centre takes on increased and compensating action when the other fails, and, being stimulated beyond the normal, it too may, in time, fail in its function.

The dyspnœa of aneurysm, though not a constant symptom, presents many phases and should not be overlooked. When it is distinctly laryngeal, it is associated with and dependent upon motor paralysis of one or both sides. Sometimes the narrowed glottis is still sufficient for easy respiration during quiescence, but exertion produces greater inspiratory demand, and during the effort the paralyzed cords are drawn violently downward and inward, with resultant apnœa.

There may also be dyspnœa (as so well demonstrated by Newman), not only from direct pressure upon the trachea and bronchi, but from pressure on the bronchial plexus, with consequent bronchial spasm. In one case this was the only form of dyspnœa present that I could discover, and this was increased in certain recumbent positions.

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* Read before the American Laryngological Association at its twenty-first annual congress.

Tracheal tugging and tracheal pulsation as well as dysphagia may appear, the latter varying in intensity at times, but generally at a stage when there is other and more positive evidence, and these have received as much prominence in our books and journals as, in the present state of our knowledge, they are entitled to. The Röntgen rays give us an interesting field for study and may be of more use in the future. So far, the best pictures are, of course, those of advanced cases in which the ordinary methods of investigation are adequate, but I believe that we will have better results and definition in much earlier cases.

Pain in the region of the aorta is frequently referred to as a characteristic of aneurysm, but I have not found it a valuable or constant indication. The pain of pressure and tension, so often mentioned in the books, is not only often absent, but is almost exactly simulated in many cases of neurasthenia—in fact, in the latter condition it is of frequent occurrence. One of the most prominent physicians of my acquaintance has borne the burden of the fear of aneurysm for three years on account of the presence of the so-called characteristic pain, while the most careful physical examination has failed to find one confirmatory sign.

Far more indicative and just as frequent, in aneurysm of the arch, is a pain in the region of the fifth or sixth dorsal vertebra. I well remember a case in which this was the only symptom, so far as I could learn, though I had no personal knowledge of the history, the patient, a man of forty years of age, dying from rupture a few minutes before my arrival. He had been treated by a noted neurologist for spinal irritation, and the autopsy showed vertebral caries from pressure. This pain may also be found in the neurasthenic, but in these cases it is lower, opposite the solar plexus, or, as a point of second selection, about the fifth cervical.

Passing the mention of the evidence to be gained by percussion and palpation and much of what is already formulated as the results of auscultation, I wish to call attention to two points which should be remembered in every suspected case. Auscultation of the left interscapular space may reveal an arterio-diastolic murmur not heard elsewhere, or there may be here or in the neighborhood a systolic murmur, due to the beating of the aneurysmal sac on the left bronchus (Gerhardt). It is heard at the same point as the pain above mentioned.

The second auscultatory phenomenon, not as yet prominently mentioned in the text-books, is the presence of a systolic sound or thud in the brachial artery, synchronous with the systole of the heart (Glasgow). Skoda and Clark have both called attention to this sound as significant in aortic insufficiency, and Dr. Glasgow well says that the same factors which are necessary to produce it in aortic regurgitation are equally necessary and often present in aneurysm.

I now wish to put on record a method of examination with which I have been experimenting for about three years. Remembering the close proximity of the aorta to the œsophagus, and that the latter is exceedingly elastic and compressible, it occurred to me that a large bougie, with the lower end made very distensible, could be passed down opposite the site of suspected aneurysm, and the impulse conveyed to the distal end of the tube and measured. The procedure is a very simple one. The ordinary œsophageal bougie can be covered at the end with gold-beater's skin, and, after a little spraying of the pharynx with a weak cocaine solution, it can easily be passed without danger of violence to any thoracic lesion.

The tube is then distended with water and connected with a U-tube, which is also filled with water. A few drops of coloring matter will add to the demonstration of the experiment. If the tube is passed down near the cardiac orifice, the heart impulse is sufficient to produce some vibration in the tube, especially if there is hypertrophy; but if the tube is placed approximately opposite the aortic arch, very little impulse is noted in the normal case.

Where there is aneurysmal distention and impulse at this point, it is not difficult to get a more or less distinct vibration, which can be seen and estimated in the bent glass tube. In five out of seven cases under observation during the last three years the impulse could be noted by this method. I need not weary you with the details of the histories except to say that in three of these cases there was a doubt at first, even after repeated investigation by the usual methods.

I had hoped to be able to claim originality for this, but I have just found, through the kindness of Dr. Abrams, of San Francisco, that Schnell (*Münchener medicinische Wochenschrift,* July 23, 1889) has written of a method which, though not exactly the same, is certainly entitled to precedence.

More recently I have been experimenting with the auscultation of aneurysm of the arch by way of the œsophagus, which, so far as I can learn, is original, although my former experience makes me hesitate to say even this. A solid œsophageal sound with a cylindrical end, something like the well-known dilator, but with a much longer tip, is passed in the usual way. To the outer end a hard-wood disc is screwed. To this disc is applied a stethoscope, or, what I have found much better in every way, the autoscope devised by Dr. Outten and recently given to the profession. In this little instrument the sound vibration is caught and magnified by tightly stretched animal membrane, inclosed in an aluminum case, open on one side, with rubber tubes attached to aural tips. It promises to be an improvement on the stethoscopes in that there is not only a better conduction of sound but a clearer definition. Through the dense medium of the solid bougie the bruit is conveyed to the disc with great plainness. The vibrations of the latter are then determined by the autoscope. The procedure is not difficult, but, having used it only during the past winter, and in but three cases, I am unwilling as yet to compare it with the usual media of auscultation through the thoracic wall. In two of these cases the arterial bruit was certainly more distinct and positive.

3886 Washington Boulevard.

FIBRO-LIPOMATOUS TUMOR OF THE EPIGLOTTIS AND PHARYNX.*

By E. FLETCHER INGALS, M. D.,
CHICAGO.

Mr. S. W., aged twenty-eight years, a farmer, was referred to me early in February, 1899, on account of difficulty in breathing, speaking, and swallowing. He stated that in 1894 he had noticed a little difficulty in breathing at night; that some time later his voice became muffled, and that in 1896 he began to have much trouble in swallowing because of some obstruction in the throat, which, however, was not painful. In September, 1896, a growth, said to have been upon the base of the tongue, had been cauterized several times and efforts had been made at its removal with scissors and snares by which small pieces had been taken off. This had given him some relief for a few months, but afterward he had gradually grown worse. During the two months preceding the time when he first saw me the throat had been gradually filling up, causing more and more difficulty in swallowing, but interfering especially with breathing when he was lying down. His voice was much muffled at the time I saw him on account of some obstruction which was not visible on inspection of the throat with a tongue depressor. He was breathing fairly well when sitting quietly, but had much difficulty when lying down. He had not suffered from previous disease, excepting rheumatism in 1890 and 1894, and some of the diseases of childhood. There was no evidence of hereditary predisposition to any disease. His weight was normal, pulse and temperature normal, appetite and digestion good. There was a little cough for the purpose of clearing the throat, but no expectoration. There was no evidence of pulmonary disease. The nasal cavities were normal; oropharynx, tonsils, and palate also natural. Upon examination with a throat mirror I found a large tumor with a smooth, somewhat congested surface nearly filling the laryngopharynx and apparently attached to the right two thirds of the base of the tongue and to the right side of the pharynx. This left only a small chink about a quarter of an inch in width at the left side of the laryngopharynx when the throat was in a passive condition. It was impossible to see anything below this tumor excepting the pyriform sinus and the pharyngo-epiglottic fold of the left side. I suspected that we had to deal with a fibrous tumor attached to the base of the tongue and side of pharynx. The patient was presented at my clinic in Rush Medical College, where the parts were anæsthetized by a spray of a ten-per-cent. solution of cocaine and a No. 5 steel wire loop was passed about all of the tumor that could be engaged, which seemed to be the greater part of what was visible. The wire was tightened with the snare, but when the milled wheel was turned down to cut off the growth, the resistance was so great that the wire broke. Twice subsequently similar wires were used and both of them broke, so that the operation had to be given up for the time being. I became satisfied that the ordinary polypus snare would not be strong enough to remove the tumor, therefore, a week later, with a uterine *écraseur*, which I had bent at nearly a right angle, and which was armed with a No. 8 piano wire, I again engaged the upper part of the tumor, that had been formerly caught, and I had no difficulty in cutting it off, removing at the first operation a mass about an inch and a half by an inch in its various diameters. This was covered with a smooth mucous membrane, was firm, and had all the physical characteristics of a fibrous tumor. Immediately afterward I removed another piece, about a third as large, which had the same characteristics, but I found that there was still a large mass lower down, so that the operation gave the patient only partial relief. The effects of the cocaine having worn off, the patient wished to defer further operative procedures for a few days. His throat was necessarily quite sore for some days afterward. He returned to me in about ten days, when I removed another mass an inch and a quarter by half an inch in its various diameters. This had all the appearance of a fatty tumor. A week later I removed two masses each about half an inch in diameter, and a week still later another not quite so large. As the lower masses of the tumor were removed, it was found that it had been attached to the upper portion of the right side of the epiglottis, to the right pharyngo-epiglottic fold, to a part of the base of the tongue, and to the right side of the pharynx. The lower portion of the larynx was now found to be normal, and all the uncomfortable symptoms had disappeared; but a small bit of the tumor remained in the right valicula, which I could not engage in a snare. This I cut away with cutting forceps and cauterized the part thoroughly with the galvano-cautery; thus the growth was entirely destroyed. The patient was discharged, but agreed to report a month later. The growth was examined microscopically by Professor Hektoen and his assistants in the pathological laboratory of Rush Medical College. The first mass removed was found to be a typical fibrous growth, another part had the mixed fibro-lipomatous characteristics, and the last large mass was a distinctly lipomatous tumor.

May 24th.—The patient came into my office this morning, the first time since his discharge, and I have the opportunity of showing the sequel. The right side of the epiglottis is shown adherent to the side of the pharynx and partly to the base of the tongue, but there has been no return of the growth. The adhesions of the epiglottis would appear to prevent it from closing the larynx in deglutition, but Nature has adapted the parts to the new conditions, so that he has no difficulty in swallowing.

The Second International Antitobacco Congress will be held in Paris next year, in connection with the exposition.

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* Read before the American Laryngological Association at its twenty-first annual congress.

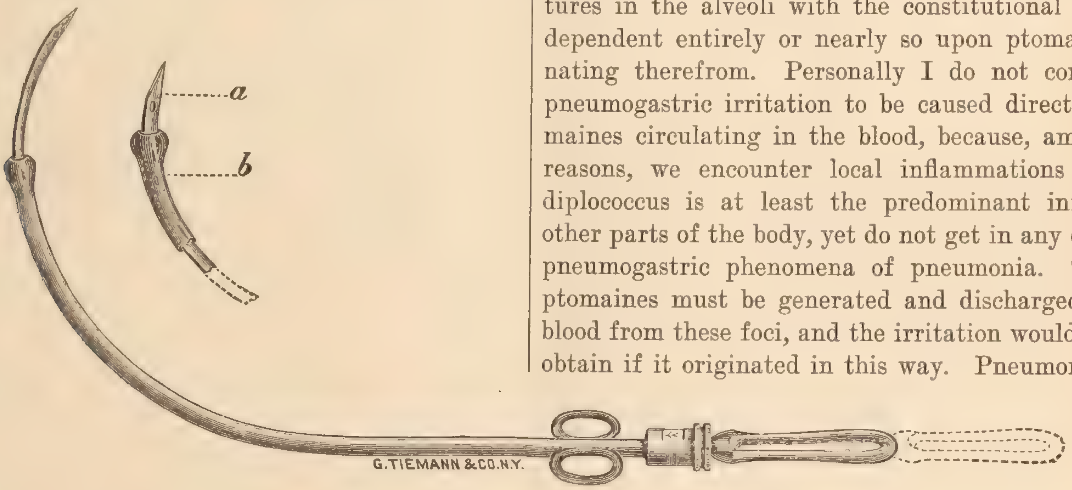
VENTRAL FIXATION OF THE UTERUS WITHOUT LAPAROTOMY.

By FRANK SUGGS, M. D.,
LITTLE ROCK, ARK.

Various operations are performed in cases of uterine retroversion to replace and hold the uterus in its normal position. Among the most popular of these is fixation or suspension to the abdominal wall. This may be readily done through the vagina if a suture carrier such as I shall describe is used.

The posterior incision is preferable, and Douglas's pouch is opened in the usual way. Uterine adhesions are broken up with the finger, and the ovaries and tubes are examined and treated as indications demand. With two fingers and a tenaculum the uterine fundus is then brought down backward through the opening in the vaginal vault. Two silkworm-gut sutures are placed, preferably in the anterior uterine wall, and the surface scarified. Artery forceps catch the ends of the sutures and the fundus is pushed back into the peritoneal cavity. The patient should now be raised to Trendelenburg's position.

The carrier used is simply a long, curved cannula, with a strong, flexible trocar that may be thrust out several inches beyond the bulb-pointed cannula, and having an eye near the point for threading. The point is projected from the bulb, and the two ends of a long piece of medium silk are threaded in the eye and the point drawn back into the cannula. This leaves a free loop hanging down by the instrument. Into this loop is placed one of the silkworm suture ends that are in the uterus and twisted.



Two fingers are directed upward and forward through the vaginal incision toward the abdominal wall, which can be reached when pressure from without is made. The bulb-ended suture carrier is introduced along in front of the fingers to the abdominal wall, and the needle is thrust through, carrying the silk with it, which is then unthreaded, and in its turn draws the silkworm through. The three other suture ends are in like manner drawn through, their proper or relative positions being maintained, and the opposite ones tied together over a small piece of gauze. The sutures remain in the usual time. The vaginal incision is closed with a few catgut sutures. In the presence of pus, the fixation is contraindicated. The carrier was made for me by George Tiemann & Co., and may be obtained from them in New York.

The advantages claimed for the operation are those of a simple vaginal incision over a laparotomy, and those of a ventral fixation over other methods.

DRY HEAT OF HIGH DEGREE AS A THERAPEUTIC AGENT.

By C. E. SKINNER, M. D.,
NEW HAVEN, CONN.

(*Concluded from page 819.*)

The persistence of the general features of the disease after the disappearance of the local lesion is a bit of evidence in favor of the view that the primary ætiological factors in acute lobar pneumonia lie in or anterior to the pneumogastric nerves, producing as a secondary result the air-cell phenomena, as opposed to that which defines its cause as consisting of diplococcus cultures in the alveoli with the constitutional conditions dependent entirely or nearly so upon ptomaines emanating therefrom. Personally I do not consider the pneumogastric irritation to be caused directly by ptomaines circulating in the blood, because, among other reasons, we encounter local inflammations in which diplococcus is at least the predominant infection in other parts of the body, yet do not get in any degree the pneumogastric phenomena of pneumonia. The same ptomaines must be generated and discharged into the blood from these foci, and the irritation would certainly obtain if it originated in this way. Pneumonia is still a mine of interest as regards ætiological investigation. But to return to the patient whom we left resting comfortably on the evening of November 17th:

November 18th, 9 A. M.—Patient had continued to rest very comfortably during the night, at one time sleeping four hours on a stretch. Respiration remained at thirty and thirty-two per minute; very little pleuritic pain or cough. Pulse had remained at 112 and 116, strong and full, until this morning, when it had begun to exhibit some unsteadiness again at intervals, and cough and pleuritic pain were becoming troublesome. Sputum was rusty. Physical examination showed very good heart action, numerous râles over the consolidated lobe, pleural friction only barely discernible, and flatness on percussion seemed about the same as on the preceding evening. Hot air given with same result as at that time.

Same Day, 9 P. M.—Patient had slept the greater part of the day. Pain had been present only slightly and infrequently, and no cough at all except on taking a deep breath or talking. Had perspired freely. Heart action strong and steady; numerous râles over consolidated lobe; no pleural friction audible. Percussion showed flatness decreased to dullness, and lung was evidently in process of rapid resolution. Pulse, 100; respiration, 32; temperature, 100.6° F. Hot air was applied, making twice to-day.

19th, 9 A. M.—Patient's condition eminently satisfactory in every way. Lung rapidly clearing, no pleurisy, and little cough. Pulse, 100; respiration, 30; temperature, 99.8° F. Hot air was postponed until evening.

Same Day, 9 P. M.—Patient's general condition practically the same as in the morning. Râles diminishing and dullness confined to one small portion of lobe affected. Pulse, 112; respiration, 34; temperature, 100.6° F. Hot air given.

20th, 12 M.—General condition essentially the same as yesterday. Dullness entirely absent, but râles still audible over the spot from which dullness disappeared last. Considerable bronchitis has developed over left upper lobe, but no dullness. Cough about the same as yesterday. Pulse, 106; respiration, 30; temperature, 99.8° F. Hot air given for the last time.

21st, 4 P. M.—Patient's general condition unchanged. Slight cough obtains when he talks much. Physical examination betrays *nothing abnormal in the previously consolidated lobe.* Condition of left upper lobe about the same as yesterday. Pulse, 102°; respiration, 28; temperature, 100.4° F.

The patient's recovery from this point, which ended the connection with the case of hot air, was very slow and protracted, due, I suppose, to the terrible strain upon his vital powers of the siege he had sustained. This case exemplifies pretty thoroughly the influence of the thermal agent in pneumonia, and what I now look upon as the indications for its administration—viz.: the occurrence of pleurisy, to relieve the pain of which opiates are usually employed; a harassing cough, which aggravates pleuritic symptoms and saps nervous energy, also ordinarily combated with opiates; and impending cardiac paralysis, precipitated by massive exudate, in the relief of which strychnine, whisky, and digitalis, singly or combined, have constituted our chief measures in the past.

The advantages it possesses over these are, in the case of opiates, that the victim's metabolic activities are maintained unimpaired, thereby giving him greater power to eliminate the disease and its noxious products from his system, and to recover from the subsequent debility, and that his nervous system is not subjected to the drain of energy due to the secondary increase of irritability which follows their immediate sedative effects.

As regards cardiac stimulation, when fatal distention of the ptomaine-impaired viscus is threatened by massive exudate, the same line of reasoning applies here as in typhoid fever, in the course of an article upon the treatment of which disease, appearing in the *New York Medical Journal*, issue of October 24, 1896, I discussed the subject in that connection. We must consider that every application of a whip is followed by increased exhaustion when the increase of function caused by the whipping has subsided. To overcome this, a fresh whipping and a more vigorous application of the same is demanded to produce the requisite amount of functional energy. This can be kept up but a short time without exhausting the powers of responding to stimulation to such a degree that the cardiac function sinks overwhelmed by the combined effects of stimulation reaction, ptomaine toxicity, and massive exudate distention, and, if it does prove possible to force the patient up to the top of the hill and over, his progress down the gentle declivity toward recovery is hampered by the necessity of overcoming the accumulated secondary depressions of successive stimulations as well as by the ravages of the disease.

Fortunately, in pneumonia the crisis calling for cardiac stimulation is usually brief, and the victim is able to respond to the whippings sufficiently well and for a sufficiently long period for us to carry him over, but not always. Hot air will enable us to save a large proportion of those who succumb to these conditions, because we have preserved for their use an amount of vitality represented by the sum of the stimulation reactions, it having rendered the whip unnecessary, and because, in addition, instead of driving him over a hill we have leveled the hill and he does not have to climb. Dry heat of high degree acts upon the exudate itself, removing the direct cause of the cardiac disturbance, which thereupon subsides. How much of its happy effect in this connection and on the cough is reflex I am unable to say. I am not yet clear as to the rationale of its action.

The report and analysis of failures are just as valuable in the consideration of a measure as the successes, hence a few words bearing in this direction will not be out of place. There are spread upon my records four cases of rheumatism in which I have not been able to attain a satisfactory finale, but in only one of them can the failure be interpreted as indicating weakness of the thermal element of treatment. This was in the case of a young man, twenty-nine years old, employed in a rubber-shoe factory. The disease was chronic and located in the deep muscles of the lumbar spine. I had been treating him medicinally for a month with very slight improvement, and then started him in on hot air. The treatments were repeated at intervals, alone and in connection with various drugs, for five months. The pain was always relieved at the time, and would sometimes remain away for five days, but so far has always returned at the end of a short period. It is much less severe than formerly, and the last time he called upon me, three weeks ago, he said that if it never was any worse than it had been for the preceding month he "could get along with it all right." Why it is so persistent I am not able to say, but his occupation may have something to do with it. The fact remains, however, that a vigorous dry-heat regimen, alone and accompanied by drugs, has utterly failed to totally eradicate the trouble.

The first of the other three failures was with a lady, seventy years of age, attacked by acute inflammatory rheumatism in the wrist, which soon after involved the elbow and knee. She took three treatments accompanied by antirrheumatic drugs, with complete relief of pain each time, and at the end of this period the swelling was nearly gone and marked progress was being made toward recovery. She then decided that she could not afford any more treatments, and, in spite of my warning that she would certainly have a return of the trouble if she did not persist in obtaining a cure, she discontinued. I have since learned that my apprehensions were fulfilled, and that she did have trouble, and much of it, subsequently. I was well aware that her poverty existed in her imagination rather than in reality, and, as my time was then very fully occupied with others, I could not treat her for nothing, and lost sight of the case.

The second was in a man, fifty years old, a great lover of beer. The disease was chronic, located in the lumbar muscles, and had existed for seven years. All alcoholic beverages were interdicted, and antirrheumatic drugs administered simultaneously with the treatments, which always gave him immediate relief. Two or three would secure freedom from pain for a period of four or five days. Then he would go back to his beer again and the pain would reappear. This was repeated three times, but he was unable to resist his seductive beer more than a week at a time, and I finally gave it up.

The third and last was in a woman, twenty-eight years old, who had suffered from acute and subacute rheumatism in elbow, knee, and ankle for three months, and who came to me at the suggestion of the patient whose experience I have recorded in Case III. At this time the trouble had settled in both feet, medio-tarsal articulation, and she had been unable to leave the house for three weeks. I gave her medicinal treatment for a week, desiring to save her the expense of hot air if possible, but the results were unsatisfactory. I then gave her the treatments in addition to the drugs, and she immediately began slowly but steadily to improve, until at the end of two weeks from this time, after taking eight treatments, she was able to get about with no pain except for three or four minutes on beginning to walk after having kept the joint at rest for some time, and for two periods of twenty-four hours each had had no pain at all.

She then decided that the hot air was "not doing her any good," as she felt "good one day and bad the next." I endeavored to point out the benefit she was deriving, but she evidently demanded an immediate result, for she exclaimed that "Mr. —— (Case III) got well in four treatments," and was not at all pleased because she had not been as fortunate. I attempted to convince her that all cases of rheumatism could not be induced to recover in the same length of time or by the same succession of events and sensations, but, as she expressed it, she "had lost faith in the hot air," and the result was discontinuance.

In this case the pain was provoked only by motion, being entirely absent when the joint was at rest, hence the treatment showed no immediate result. Its effect was manifested only by the manner in which the drugs took hold after I commenced its use. I was greatly disappointed at her discontinuance, as the unflagging steadiness of her improvement was a very positive indication that the victory was surely approaching.

About a month afterward my unheeded warning, that failure to persist in obtaining a complete cure would probably be followed by a return of symptoms, was fulfilled, and she suffered from an exacerbation involving several joints. The attending physician told her that my hot air had "spread the rheumatism all over" her body. Previous to learning that he had expressed this opinion, I had not regarded it as necessary even to mention to physicians, much less to deny, that antediluvian belief in the power of an external application to "drive" rheumatic inflammation from an active focus to other parts of the body, and I do not now consider that it merits a discussion.

I am induced by the above incident, however, to state for the benefit of other disciples of the healing art who might rest under this delusion, if there are any, that the simultaneous or successive involvement of different parts of the body containing the material favorable to the growth of the rheumatic micro-organism is a part of the natural history of the affection, whether gonorrhœal or *de facto*; is a very commonly observed phenomenon under any line of treatment or without any treatment at all; that no local measure is required for its induction; and, lastly, that neither hot air nor any other local therapeusis is capable of precipitating the same. As might be expected, however, the fallacy is common among laymen because of their crude and erroneous conceptions of disease processes.

On May 15, 1899, I was called to a case of septicæmia post-abortum. Pulse was 112, respiration 20, temperature 100.6° F. Slight tenderness was evident on deep pressure over uterus and left Falloppian tube, but peritonæum was not involved, and, except slight headache, the patient was entirely free from pain, and remained so throughout her illness. Thorough curetting was done, removing a large amount of infected *débris*, bowels opened freely with magnesium sulphate, milk diet ordered, and unguentum Credé rubbed in twice daily for four days. The patient grew steadily worse.

At this point I recalled my experience with Case VI, and began applying hot air. The patient ceased her downward progress after the first treatment, but the tenderness on pressure was not affected in the least by it. I continued the applications for four days, but, as the patient's general condition remained stationary, and as I could perceive no difference in the local pathology, I then abandoned them. The next day she was slightly better, and this inaugurated a slow recovery, which extended over a period of eight weeks. I look upon the administration of hot air in this case as an unmitigated failure. It is possible that it had something to do with the arrest of the process, but I am more inclined to consider it coincident. Perhaps the streptococcus is less susceptible to heat and stimulated tissue metabolism than the gonococcus.

I may say, in passing, that this was the second patient on whom I had seen Credé's ointment used with absolutely no effect. The other was a case of the same sort, which I saw in consultation, and in which I recommended its use. The victim was very ill at the time, and, although three, and sometimes five, inunctions daily constituted the regimen, she steadily sank, and died a few days later. I have observed its use in no other cases.

In pneumonia hot air has not yet failed once to give me the desired result, the only case I have lost being a lady, eighty-one years old, who had been ill five days when I first saw her, and upon whom the use of hot air was a physical impossibility because of a peculiar combination of circumstances obtaining at that time. I do not think it would have altered the fatal issue anyway.

The gratifying results which I had obtained in this disease awakened my desire to ascertain what it would do in phthisis pulmonalis, but in well-established consumption I have not observed that it produced any effect whatever upon the main features of the disease. It does result, however, in a marked lessening of the cough, thereby allowing the victim to sleep and rest; the night sweats diminish, the appetite improves, and it has thus far in my experience invariably extinguished the painful secondary pleurisies in from twenty-four to forty-eight hours. It has therefore considerable value as a palliative measure, but for this purpose it will be chiefly available in sanitaria, as so many treatments are required that the expense becomes too great for the ordinary individual. The pathological processes appear to continue, lung tissue breaking down, and cavities forming, just the same with as without it. In incipient cases it promises better, but of this more anon.

In two cases of chronic nephritis I have observed no effect whatever, except in one the temporary alleviation of a dull, throbbing ache in the region of the kidneys, which sensation did not obtain in the other.

I have said nothing about the rationale of the action of hot air because I have not yet reached a satisfactory conclusion in regard to it. So far, as soon as I have formulated one theory, I have observed a new phase of its action which has rendered the explanation untenable. It requires further observation and study. One element in this problem, however, I shall consider here, and that is the prevalent idea that a difference exists between the direct therapeutical effects of dry and moist heat, dry being stimulating and moist relaxing. I think this is unquestionably a fallacy.

Moist heat affects the non-vascular and only visible portion of the integument differently from dry because it macerates it. The parts beneath this, however, are continually bathed in and permeated by fluids, and when the heat has penetrated thus far it necessarily becomes moist, however dry at the surface. Again, it was not possible to maintain a dry heat of the surface of the body previous to the recent adoption of air as a medium of application, because, as I stated at the beginning of this article, a heated substance, dry in itself, rapidly induces perspiration where applied to the skin, which accumulates at the line of contact, thus transforming the originally dry into a moist heat. This would cause discomfort and, if the medium were hot enough, positive suffering, and the reflex phenomena of irritation dependent thereon are probably responsible for the existence of the fallacy.

It was known that moist heat could not be borne in great intensity; therefore it was not attempted to apply it hotter than was comfortable, and its maintenance even at this temperature was rarely attempted or possible of attainment. The dissipating influence of the circulation would soon reduce this to or near the body temperature, and this low degree of heat will produce relaxation whether moist or dry. It was also known that dry heat could be borne at much higher temperatures than moist, and its application would be attempted at higher levels. As we have seen, however, it would soon become moist and behave with the peculiar characteristics of moist heat, producing suffering which was mistaken for a direct stimulant effect of the heat, which was supposed to be dry.

Finally, as it has been impossible until recently to produce a dry heat which would remain dry, it has been impossible to observe its effects, and hence we have not been in a position to know anything authentic about the differences between it and moist heat.

It is my intention in a future article to report and discuss results of the dry hot-air treatment in incipient phthisis, tuberculous peritonitis, tuberculous and other joint inflammations, syphilitic and traumatic periostitis, syphilitic and varicose ulcers, pleurisy with effusion, neuritis, and various neuralgias. At the present writing, however, my experience with it in these affections is too limited and incomplete to render reliable deductions possible. I shall therefore conclude my present consideration of the subject by summarizing as follows:

Hot air is a pain-relieving agent of unequaled value in those conditions where its application is indicated and possible, because of its very constant effectiveness, rapidity of action, and the absolute absence of deleterious after-effects.

In rheumatism, at least, its action is so profound in connection with judiciously chosen drugs that it may almost claim a positive curative power of its own, and may certainly be said to be the most powerful contributing agent we now know of. Many cases can not be cured by drugs without it, and in any case the victory over the ailment is much hastened and the victim maintained in comfort during the attack. On the other hand, we must remember that it appears to be rarely if ever capable of overcoming the disease without the aid of drugs.

It is capable of stimulating tissue repair to a remarkable degree, as is demonstrated by its effect upon sprains and, as I shall show in a future article, on at least many cases of intractable varicose ulcers.

It is capable of influencing most happily septic inflammations of serous membranes, as shown by its action in peritonitis and pleurisy.

It will many times at least give us the power of economizing nervous energy by relieving pain and other more or less dangerous conditions in pneumonia, thereby enabling us to refrain from sedatives and cardiac stimulation, and the nervous energy we may thus save for the patient will sometimes be sufficient to tide him over a crisis by which he would otherwise be overwhelmed.

We can not expect hot air or any other one measure to do everything. What I assert is that it will do a great deal, and that its powers are exerted in a direction in which we have hitherto been lamentably deficient; hence its addition to our armamentarium will enable us to increase by a large percentage the sum total of our power over disease. The capabilities which it has so far manifested, and we have as yet only begun to investigate them, are sufficiently weighty to justify belief that dry heat of high degree is destined to become in the near future a therapeutic agent of as great popularity as it possesses diversified applicability.

THE ARMY RATION.

By CHARLES SMART, M. D.,
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Articles have appeared recently in the public press criticising the army ration, denouncing its unsuitability for troops in a tropical climate, and urging a radical change in its character. These articles are based on the elementary propositions that, while fatty foods are good where a high development of animal heat is required, they are harmful in a climate where there is no call on the system for a large heat production. Every reader is willing to grant these propositions. They are simple and can be verified every summer and winter by the inhabitants of the north temperate zone. There are twelve ounces of bacon in the army ration, and this is, no doubt, an excess of fat for a dietary in the tropics. But it does not follow that the army ration should therefore be changed. The critics who see so clearly that the ration should be altered to suit their views of what is right and proper to be eaten in tropical climates, and who are astounded at the dullness of those army officials who think it wise to be slow in doing anything of this kind, do not appear to know that the army ration is run on a broader gauge than the elementary propositions which form the basis of their argument.

There is in the army of the United States a considerable difference between the ration of the soldier and the diet of the soldier. The critics of the army ration do not understand this. The ration is the allowance for subsistence of one person for one day. The diet is what is actually prepared in the kitchen for consumption by the soldier day by day. The ration is prescribed by law and consists of the meat, the bread, the vegetable, the fruit, the coffee and sugar, the seasoning, and the soap and candle components.

The meat component does not consist of fat pork or bacon, as those who know nothing of the domestic economy of army kitchens appear to believe. On the contrary, there is some variety in the meat component. It consists of twenty ounces of fresh beef, *or* twenty ounces of mutton when the cost does not exceed that of beef, *or* twelve ounces of pork, *or* twelve ounces of bacon, *or* twenty-two ounces of salt beef, *or* fourteen ounces of dried fish, *or* eighteen ounces of pickled fish, *or* twenty ounces of canned salmon, *or* eighteen ounces of fresh fish.

The bread component consists of eighteen ounces of flour, with baking powder when the men have to bake their own bread, *or* eighteen ounces of soft bread, *or* sixteen ounces of hard bread, *or* twenty ounces of corn meal.

The vegetable components consist of two ounces and two fifths of beans, *or* two ounces and two fifths of peas, *or* one ounce and three fifths of rice, *or* one ounce and three fifths of hominy, AND sixteen ounces of potatoes, *or* twelve ounces and four fifths of potatoes and three ounces and one fifth of onions, *or* eleven ounces and one fifth of potatoes and four ounces and four fifths of canned tomatoes, *or* four ounces and four fifths of other fresh vegetables, not canned, when they can be obtained in the vicinity or transported in a wholesome condition from a distance.

The fruit component consists of two ounces of dried fruit, such as prunes, peaches, or apples. The other components consist of coffee green or coffee roasted, *or* tea green or black, *and* sugar, *or* molasses, *or* cane syrup, vinegar, salt, and black pepper, and to these are added the soap and candle components.

The slightest knowledge of practical cookery will enable any one who reads what I have just written to form an idea of what may be called the flexibility of the army ration. The soldier in the tropics is not called upon to eat his twelve ounces of bacon *or* go hungry. That *or* is not to be found in the regulation statement of the meat component of the ration, although there are more than half a dozen other important *ors* in it. And there is variety also in all the other constituents except the soap and candle components.

If the scientist will calculate the elementary constitution of any one of the various diets which may be formed from the flexibility of the army ration, he will find that there is a sufficiency of nitrogen and carbon in each to support the system of the soldier under the heaviest strain of work and exposure. If the proximate principles are calculated it will be found that many variations may be made in the relative proportions of proteids, hydrocarbons, and carbohydrates. But, more than all this, we *know* that the soldiers of the United States have never gone hungry on their full ration.

Granted, then, that the ration suffices to sustain the system in the cold of a Montana blizzard, will any one suggest its insufficiency for nutritive purposes where there is little call for physiological fuel to keep up the animal heat? No, but, says the critic, for whose information I am writing, there is too much of the hydrocarbons, too much bacon in the ration to make it a suitable ration for tropical climates. Too much bacon! Too much candle! There is a candle component in the ration, but the soldier is not called upon to eat it. Nor is he required to eat the bacon if he does not desire to do so.

This leads me to refer to the elasticity of the ration. Its flexibility has already been referred to, but its elasticity also is wonderful. It is so elastic that the soldier may verily eat his candles if he does not require them for other purposes. He may leave the candles in the hands of the subsistence department, and, if their money value will pay for a can of peaches, or a pound of rice, or so much of any other of a long list of articles kept for sale by the subsistence officers, he can eat his candle component in the form of peaches, or rice, or any of the other purchasable things. So with the bacon. He is no more required to eat that because it is part of the ration than he is required to eat the candles, but he may transform it into some other article of food which he likes better or which is better for him under the climatic conditions which affect him at the time. So, indeed, with all the other components of the ration excepting only the fresh vegetables, fresh bread, baking powder, and dried fruit. Even the fresh beef component may be reduced in quantity, and the money value of the quantity not issued for use may be drawn in other articles on sale.

There is even a greater elasticity than this to the ration, for the money credit for components not drawn and used may be applied to the purchase of articles from outside sources—articles not kept for sale by the subsistence department. Thus, in probably every company and post mess hall in the United States on Thursday, November 30, 1899, there was turkey with cranberry sauce on the table, representing so much bacon and other articles of the formal ration not drawn in kind and used, but left in the hands of the subsistence department and placed as a cash credit for the payment for turkeys and cranberry sauce or for any other purchases to vary the diet of the soldier. If at any of the posts they did not have turkey and cranberry sauce on that day it was because these things were impossible there, but they no doubt had an excellent dinner all the same.

Under the present law and regulations as to the ration the soldier can have any variation of his diet within certain money-value limits which his officers consider necessary for his well-being. His ration is fixed by law, and it is a most liberal one; but his dietary depends upon the intelligent supervision of company officers and the ability of the company cooks. I have stated the law and regulations concerning the ration and its flexibility and elasticity, and the subsistence department may be depended upon to provide the articles necessary to vary the diet. If a change in the dietary is advisable, it lies with the company commanders to carry it into effect. If the change is desirable on medical grounds, medical officers should communicate their views to these responsible officers, and the change can be effected without difficulty. There is no need to talk about changing the ration to effect a change in the dietary.

But it may be said, Why not go a step further and reduce the ration to simpler terms? Why not make it a money value instead of so much of this, that, and the other component? A money value, to be of equal value at all military stations, would have to be a different value at every station. A dollar is worth nothing from the point of view of the ration if there is not a bite of anything within its purchasing radius; but to the stomach of a hungry soldier twenty ounces of fresh beef, twelve ounces of bacon, etc., have a fixed value, and when the subsistence department is charged with providing these articles the soldier will fare much better than if the department had only to provide him with so many cents a day for his food.

The United States army ration is the most liberal ration in the world. It is the best ration for the far northwest of this continent, whence come the subzero cold waves to sweep over the country from the upper strata of the atmosphere, and it is the best for the tropics when intelligently utilized. It is the product of the experience of several generations of army officers, and it is the part of wisdom to be slow in urging alterations at the suggestion of people who know that an excess of fatty food is not suitable for a dietary in the tropics, and who have just discovered that there are twelve ounces of bacon in the soldier's ration.

But the best dietary for the tropics is a wholly different subject from the ration, and we shall await with interest the publication of the observations of our officers—line and medical—on the modifications which appear to them to be judicious for Cuba, Puerto Rico, and the Philippines.

THE

POTENTIALITIES OF THE PHYSICIAN.*

By KENNETH W. MILLICAN, B.A., M.R.C.S.

PERMIT me, if you please, to preface my remarks with the statement that when I was invited to deliver this address I was considerably at a loss to fix upon a suitable subject. This may sound remarkably like a plagiarism, for I can not deny that many others have made the same remark before; but there is said to be a similarity in great minds which leads to their oftentimes arriving at the same conclusions and expressing them in similar phraseology quite independently of one another. And in the present instance I assure you that my statement is the result of my own unaided experience.

I pondered and pondered, and assured myself that had it been any other audience that I was called upon to address, I could, without doubt, have selected just the very topic for the occasion. For instance, I could have strung together an admirable array of moral maxims and philosophical platitudes to encourage a batch of newly fledged medical students. Or, again, by the aid of a Haydn's *Dictionary of Dates*, an encyclopædia, and some of the literary *réchauffés* which can frequently be culled from the pages of the many exchanges which find their way into every journal office, I could have discoursed upon the history of medicine from preadamite times down to the end of the nineteenth century, and even have hazarded a few guesses to carry the audience prophetically into the advanced medicine of the twentieth; that would have been just the thing for a literary and philosophical society.

But, alas! on inquiring what was to be the occasion, and what the character of my audience, I was told that it was "just the usual annual address on the hospital memorial day," and that the audience would be "mixed." Now, the one subject preeminently suitable for such an occasion—a statement of the affairs and progress of the hospital, with, perhaps, a history of its origin—I at once realized would be ruthlessly wrested from me before my eyes by some inconsiderate functionary of the institution; and I was, moreover, handicapped in that direction by the consciousness that it was a subject of which I was brilliantly ignorant.

And then, too, my audience was to be "mixed." That settled it! I got so "mixed" myself that I gave up the search for a while, and took down from my book shelves the first book that came handy wherewith to calm my quivering nerves. It chanced to be Oliver Wendell Holmes's poems, and it opened at his Ode for a Social Meeting, with Slight Alterations by a Teetotaler. Those who have not read it should; while those who have will comprehend how suddenly it flashed across me that it was not always the subject, but often, rather, the manner in which it was treated, that made all the difference.

And then I began to ponder reverently over all I knew—not personally, alas! but by reputation—of that intensely human scholar and physician, the genial Autocrat of the Breakfast Table. And as I recalled his many-sidedness and all that he had done and was able to do—his potentialities, in fact—it dawned upon me that there were potentialities for every physician which would well repay consideration. I do not mean by the compilation of a catalogue of the Akensides and Goldsmiths and Keatses, the Holmeses, Weir Mitchells, and Conan Doyles in literature; or the Livingstones and Kanes in exploration; or the Thompsons and others in painting; or the Wyndhams in dramatic art; or even the Leonard Woods in military command and governmental administration—but a review of the potentialities of the physician from a broad and general standpoint, comprising a consideration of—

1. What the physician can do for himself.
2. What he can do for others individually.
3. What he can do for the community.

I have placed what the physician can do for himself first, not because I wish to counsel selfishness, but because his own economic independence is the first essential to his effective work for others.

1. *His potentialities toward himself* have relation to (*a*) his sphere of action, (*b*) his remuneration, and to (*c*) those prizes attainable in all careers only by the lucky few, but which are always a potent factor in this life in stimulating that exertion to excel without which stagnation would reign supreme.

(*a*) *His Sphere of Action.*—It is a proud moment for a young man when, after years of training, and a more or less creditable achievement in certain examinations, he is summoned before those upon whom he has hitherto looked, as it were, only from outside the gate, to find extended to him the right hand of fellowship presenting a diploma, and to be told in solemn and earnest tones that he is henceforth a member of the great guild of Æsculapius, admitted to a calling of honor and dignity, one, if not of great profit, at least of preeminent usefulness; and he is admonished to guard with reverence the trust committed to his charge.

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* An address delivered at St. Luke's Hospital, Bethlehem, Pa., on the Memorial Day, October 18, 1899.

Anon comes the problem of a career. Many fields lie open to him: General practice in town or country; the services, army or navy; the mercantile marine; or, perchance, employment to guard the health and repair the injuries of the employees of some great commercial enterprise—a plantation, a trading company in foreign parts, a mine, or what not; and, finally, there is spread out before him the alluring prospect of consulting or special practice.

The heart of the medical profession throughout the world undoubtedly pulsates in the great body of general practitioners. Often obscure, but painstaking and devoted, as a body they live lives whose usefulness is exceeded by that of no other body of men. Work may be arduous and grinding, fees may be small, holidays few, certain leisure none, fame afar off; but they live in closer touch with humanity as a whole than does all the rest of the world put together. If they are the right kind of men, their reward is a sure one, for it is locked in the faithful repository of their breasts, whence none can take it from them by force or fraud.

Of the services as a career but little need be said. They have advantages peculiarly their own, less marked, perhaps, in ordinary times in this country than in Europe, but by the law of compensation it follows that disadvantages peculiarly their own are theirs also. Government service is a certainty as regards pay, etc., it carries a special distinction of its own, and it affords a mode of life which is attractive to many temperaments for exactly the same reasons that make it repellent to others. A habit of subjection to discipline is a good thing, to at least some extent, for everybody; for it is rare that self-discipline is attained by those who have not been subject to the discipline of others. The services demand a special type of man, a man with a particular tone of character, if the candidate is not to find himself a square peg in a round hole. For those who like excitement and adventure they have in this country, during the past eighteen months, been afforded opportunities which have been eagerly seized. On the other side of the water such opportunities are always, as it were, in the air; consequently the military and naval services there have all the time more of interest than, until the recent stirring times, they have had here.

Nor is the military career so profitless to the public advancement as many seem to imagine. By far the larger part of our knowledge on tropical diseases has been acquired by the patient labors of military medical officers; while the organization and method brought to bear in military administration make possible a system of collective investigation whose most recent outcome is the expedition to the west coast of Africa under the leadership of Major Ronald Ross, of the Royal Army Medical Corps, for the purpose of tracking the malarial mosquito to its ultimate domicile, and there learning how to entirely exterminate it.

The mercantile marine affords to a young man a very valuable chance to see the world. It is, moreover, a pleasant and not too arduous existence, though apt to become monotonous and wanting in opportunities for broad professional experience. It may be thought that the leisure and undisturbed peace of a long ocean voyage would afford opportunities at least for theoretical study. That is undoubtedly true—but there is something in the air in a sea voyage that causes the zeal for study to atrophy; and I can safely aver that, for my part, I accomplished more in a week in the way of study when I was a hard-worked country general practitioner than I did in months of ample leisure on board ship.

The larger ocean-going liners, however, especially the transatlantic ones, no doubt afford more practice; and also there are oftentimes good fees, good friends, and even occasionally, as I have been told, a good wife, to be gained on them.

Tea, coffee, and tobacco plantations in the tropics will probably soon offer to the junior members of the American medical profession, in the new colonies beyond the seas, opportunities which have long been enjoyed by their British colleagues; while for mining appointments they have many excellent openings in their own country as well as abroad.

It only remains to speak of the consultant and the specialist. Specialism is, of course, an absolute necessity. There is so much to know, so many kinds of dexterity to be acquired, that no one man can ever again be expected "to know it all." But I can not help feeling strongly that no man should be accepted as a specialist until he has proved himself a general practitioner of ability and has acquired breadth, harmony, and, above all, a sense of proportion in his knowledge; and, further, that when he *is* a specialist he should aim at becoming the counselor of his professional brethren rather than directly of their patients.

In the towns, at any rate, I regret to say, the old idea of the "family doctor" is seemingly dying out. People nowadays prefer to employ a staff of special experts rather than to retain in intimate personal and family relationship one faithful, friendly, honest practitioner on whose judgment they can implicitly rely, knowing full well that when he says "Leave it to me," all is well; and that when all is *not* well he will say, "I will call in Dr. So-and-so, and we will take counsel together." Strange, is it not, that the age which has developed that general practitioner of commerce, the department store, where can be bought everything, from a packet of pins to a fully furnished house, to the impending ruin of the retail tradesman and the beggaring of the honest craftsman, should at the same time be using every effort to make life impossible for the general practitioner of medicine, by dividing up the dominions of the body among so many specialist physicians, as though it were a picture puzzle?

(*b*) *The remuneration* of the medical practitioner is rarely if ever a great one. He may make a very comfortable income—when he gets paid—and some few may attain to comparative opulence. But there are no prospects, such as commerce holds out to its votaries, of vast incomes, nor even as compared with what may be accomplished at the bar does the medical profession rank high among remunerative pursuits. In this matter a grave difficulty confronts the practitioner of to-day—a graver difficulty, I venture to think, than in times not so many decades gone by. In avoiding the Scylla of unjust generosity at the expense of his own rights, and particularly of the rights of those dependent on him, the physician of to-day is in danger of falling into the Charybdis of commercialism. The medical profession must never be simply a business—it has sacred obligations which come down to us with all the weight of the purest ethics of antiquity to protest against that; yet, unless physicians can either all be financially independent or be supported by the state (neither of which alternatives is likely to happen), the medical art can not be practised, even by its most faithful devotees, on purely philanthropic lines. It is a pity, however, that public feeling in this and other countries is not high-minded enough to solve the difficulty in the way in which, according to a writer in the *British Medical Journal*, September 16, 1899, it is solved in Sweden. This writer says:

"As a contrast to this commercial spirit I should like to mention the professional sensitiveness of the Swedish doctors, who do not even send in bills for their attendance. Most Swedish families send their doctor a check once a year, whether he has been in attendance or not during the year. The amount varies according to their means. The doctor does not send a receipt, but simply his card, with 'many thanks and wishes for a happy new year.' None of the commercial transactions mentioned are known."

The world is very apt to view the medical profession's obligations—those due from it and those due to it—on the "heads I win, tails you lose" principle. The medical profession is in its essence a philanthropic calling. Honorably and properly exercised, it should be above avarice, above self-seeking, above price. But the medical man has to live; and, unfortunately, the pure humanitarianism which is expected of the doctor when the baker lies in danger from an accident is not reciprocated by the baker when the doctor needs bread. If the doctor's family were starving, his account at the baker's long in arrears, and his cash and credit exhausted, no one would censure the baker who refused to supply him with the "staff of life." But if the baker were thrown out of his cart and seriously injured, and if the doctor, who had applied in vain for the remuneration due to him for years of previous work (even were it withheld out of unwillingness to part with money rather than from sheer inability to pay), were to refuse to attend the baker in his accident, what a howl there would be over the doctor's "inhumanity"! The public sees in the medical profession two sides—on one hand, a humanitarian guild that exists for the benefit of suffering human nature, whose duty it is to shrink from no self-sacrifice under penalty of being branded as "inhuman"; on the other, a commercial occupation standing on the same business footing as does any other pursuit. And the public invariably decides, according to its own interests, whether the profession is to be regarded in a given case from its humanitarian or from its commercial aspect. Let me give an illustration: A medical man, years ago practising in an agricultural district, largely among the laboring classes, was compelled to let his bills run on to suit his patients' convenience. A family of the kind that is ever ready to send, but never to pay, ultimately accumulated in three or four years a charge against them amounting to about £5—twenty-five dollars. As their family earnings probably did not exceed thirty shillings, say $7.50, a week, £5 was certainly a large bill to meet. But, since entreaty and expostulation from the doctor had availed nothing, and could not extract even a payment on account, the physician very reluctantly sued them in the county court. The magistrate practically dismissed the case by ordering the defendants to pay a trivial sum weekly, remarking that the doctor must have been a born fool to allow an account to run on like that with people in the defendants' position, and adding, moreover, that he deserved to lose his money for not insisting on payment at the time of his visit.

Some months subsequently that doctor was summoned in the night by the same family. A child was very ill—at death's door, so he was told, as he had been told many times before. Remembering his lesson from the county court judge, he demanded his fee, which was not forthcoming. He then declined to go until it was brought, and the child (who, as it turned out, was this time really very ill) died before the doctor arrived. An inquest was held, and the jury, apparently not agreeing with the sentiments of the county court judge, actually asked the coroner if it was not in their power to return a verdict of manslaughter against the doctor. Finding that that was impossible, they censured his "inhuman conduct," in which censure the coroner saw fit to concur!

From this it may be gathered that the conditions under which the medical man is expected to work are somewhat as follows: In reference to doing his work he is to be guided solely and exclusively by considerations of pure humanity, and any commercial spirit is to be sternly condemned; but, in reference to the acquisition of the wherewithal to live, his occupation is, after all, a matter of pure business, and if he can not look after his own interests, he can not expect others to do so for him. As I said before, "Heads I win, tails you lose!"

The financial remuneration of the physician, therefore, can never be expected to be very large, and must often be precarious and fluctuating to a greater degree than in most other occupations. He must expect to find self-abnegation and gratuitous services exacted from him such as would be expected from no other toiler on earth. But there is one comforting reflection even here. When we have a little surplus money, we pay it into the bank till we want it. When we claim it later, we do not look to get back the identical notes or coins which we paid in, but we receive others equally good, and with interest. And in like manner, so far as my experience goes, the deposits which we make into the Bank of Humanity come back to us with interest, not perhaps in the identical form in which we paid them in, but in others just as good, and at the time we most need them.

(*c*) *The prizes* open to our profession are, it must be frankly admitted, scanty and not exhilaratingly valuable. A Chicago surgeon may have made, as stated, two hundred and fifty thousand dollars from the exercise of his profession alone, and not from inheritance or side issues in the way of speculation. No one will grudge him his good fortune, but rather all will congratulate him on his well-earned reward. But still, even two hundred and fifty thousand dollars, in an exceptional case, a prize in short, as the recompense of many years of arduous and unceasing labor, is not quite the equivalent of a railway magnate's fortune, or of that of an operator in north pole stocks, or a packer of bovine pathological specimens.

Then as to honors. In this country you are perhaps better off than on the other side, for there are but few opportunities, and those almost entirely official, of conferring artificial status. But in countries where they take men and make lords of them it would seem as though brewers and manufacturers and great men's secretaries and lawyers—particularly lawyers—were all better stuff to make lords out of than are doctors, though Lord Playfair and Lord Lister do exist as *raræ aves* of their kind.

But even in this country we have a surgeon-general of the army whose rank is only that of a brigadier, presumably because the medical department is of small account. Certainly it can not be by reason of any demerit on the part of the officer himself.

No! On mature deliberation I think we may safely say that prizes are few and insignificant, and blanks are many, in the medical lottery.

2. This brings us to our second subdivision, the *potentialities of the physician toward others individually*. Medicine is the individualistic profession *par excellence*. As Dr. Clifford Allbutt recently pointed out, the ministrations of the physician are directed not only to the relief of suffering humanity, but more minutely yet to the solace of the suffering man. There is, and inevitably must be, a personal bond of the closest description between the physician and his patient, and oftentimes the patient's family also. Dr. James J. Putnam, in his Shattuck lecture, said: "We can not really know the man whom we are called upon to treat without going far beyond his outward relations and penetrating in imagination deep into his mental life. 'The man' is, above all else, the *mind* of the man; and not only the mind as an organ of conscious thought, but the mind as an organ of bodily nutrition, and the mind as a vast theatre for the interplay of contending forces that do not always recognize the personal consciousness as their ruler. This is the man that the doctor should learn to know and treat. The need is not met by kindliness and humanity alone; the task is one for science also."

And Mr. W. J. Evans, in a paper on The Doctor, expressed this fact most happily when he said: "The humblest creature presents features which repay his scrutiny, and the proudest often traits which excite his pity. He is the confidant at their best and at their worst, and learns the guarded and unguarded truth relating to the mysteries of life. He reads the naked heart when it is either too weak or too sorrowful to hide its nakedness."

But not only is this close bond necessarily existent between the family physician and the patient; as I said before, it often binds him to the family also. On this point Beverley Robinson * has well said: "In the family relations, also, the chosen doctor who is to guide and direct, will be selected not because he knows everything pertaining to medical and surgical science, but because *he* among other men knows the *most*. If there are, as there must frequently be, occasions when the specialist's advice is sought for and required, he will stand by as the guardian of the family's first interests; he will be requested not to allow any narrow views to control the situation; not to permit any interference, medical or surgical, to be carried out unless with his entire approbation and indorsement. And the patients will select their physician because of his well-known, well-grounded intelligence, his previous long and honorable record of good and faithful work accomplished before his fellows and in the light of day—knowing as they will and must that he does for them not merely as he does for himself, but rather as he does for those he loves best in the world."

No man better than the physician can become the comforter of the sorrowful—more especially of those who suffer the more because they "have only themselves to blame." He can support the weak equally through those trials and adversities caused by sickness, and through those of worry, or remorse, or grief, which bid fair to result in it. The family physician, if he is a good physician, which means far more, mind you, than being a good medical craftsman, can help, as no one else can, the family in trouble over a wayward daughter or a scapegrace son.

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* *New York Medical Journal*, August 12, 1899.

If he is, as he ought to be, the trusted, tried, intimate family friend, he can be of the most material assistance in the training of youth—in the choice of a career for the son; in estimating the fitness of a life partner for the daughter. Nay, more! His tact and judgment may often serve to narrow a rift between those at the head of the family ere it widen into a chasm. To touch only lightly on a delicate subject, much comment has been aroused of late about the laxity of the marriage tie. It does not seem to be noted that it is infinitely more important to study with a view to removing the fundamental causes which are operative in *leading* to the tendency to break that tie than to spend time in railing at and devising obstacles to the operation of that tendency itself. Here is a grand field for the physician of the future. Let him study the question of the physiology and psychology of the marriage relation more thoroughly in all its three absolutely essential elements, intellectual, emotional, and physical; and then let him become in truth the adviser and confidant of his patients in regard to those all-essential matters which, whatever may be said to the contrary, do *not* adjust themselves naturally and as a matter of course in the majority of cases. They as often go wrong as right, if not oftener, unless the same attention is devoted to them as is given to producing the best results in any other natural operation. I say emphatically that at least one half of these driftings apart, which the moralists condemn as due to moral obliquity, are really due to purely natural psychological or physiological causes, which could either have been prevented by the trained physician's preliminary instruction in essential knowledge, or might have been obviated by his early intervention. Given the old-fashioned family physician, heart to heart and soul to soul with his patients, then no mock modesty or conventional cant need rob the young maiden or the young man of that necessary instruction to whose absence discordant matings, blighted affections, waning love, unhappy lives, inefficient parenthood, unresisted temptation, and final family disruption are principally due.

Man has a threefold nature—intellectual, emotional, physical. Companionship consists of a harmonious relation between two individuals in regard to one or more of these three elements. The "glorified companionship of matrimony" demands harmony in all of them. A certain variation is permissible—a certain excess on one side or deficiency on the other in any of these points, so long as it does not pass a certain limit. But, as in chemical affinities, so in matrimonial. Every union is only partial and *unstable* which leaves a valence, an affinity, unsatisfied.

(*To be concluded.*)

REPORT OF A CASE OF MEMBRANOUS DYSMENORRHŒA.

By ROBERT E. COUGHLIN, M.D.,
BROOKLYN.

Skene says that "membranous dysmenorrhœa occurs in single and married women—about as often in one class as the other"; while Croom says "the condition is peculiar to married women, although minute shreds are observed in single women." Hausmann adopted the view that these membranes are early abortions. Others state that membranous dysmenorrhœa is merely an exaggeration of a normal process, and that the membrane is discharged in mass instead of in minute particles.

The current views regarding the affection are that it is due to inflammation, or else the result of gestation. Oldham and Skene discard these views and believe it would appear to be some derangement of innervation and nutrition.

Gynæcologists have given the subject special attention, and the literature of it is so extensive that Hart has said that "were its value equaled by its bulk, our knowledge of the subject would indeed be complete." It is easy to see that there is much difference of opinion on the ætiology and pathology of this rather rare affection.

As I have been unable to find any report of membranous dysmenorrhœa occurring in the virgin, except the case reported in the *Annales de la Société médico-chirurgicale de Liège*,* I believe the following case interesting in some respects:

Miss F., aged thirty-one years; occupation, laundress.

Family history negative, except that a sister died of pulmonary tuberculosis.

Previous History.—Patient has always been a healthy person. Had measles when a child. One year ago was attacked with influenza, which was followed by a bronchitis, which became more or less chronic in character.

Menstrual History.—Menstruation began at eleven; twenty-eight-day type. Pain present as a rule. Menstrual flow moderate in quantity.

Present Condition.—A large, bony young woman, well nourished and free from any neurotic manifestation. Physical examination shows the signs of an "apex catarrh" on the right side. Chest deep, with no signs of retraction in the infraclavicular regions. Breasts large and firm.

Bimanual examination shows pain on pressure in lower part of abdomen in region of uterus. Some pain also in region of ovaries. No uterine displacement present. Hymen intact. Cervix fairly soft. Temperature, 99° F.; pulse, 80; respiration, 20.

History of Development and Course of Disease.—Eleven days ago menstruation began quite profusely. Some pain was present, but, as this generally occurred at such times, no particular attention was paid to it, and patient continued to perform her work of a laundress up to yesterday, when she was compelled to give up on account of the intense pain and the profuse hæmorrhage. As time went on during the day the pain increased in severity, continued all night, causing complete loss of sleep until 6 A. M. to-day, when a mass was discharged *per vaginam*. This mass resembles very much the early decidua in every respect and, like it, is a triangular-shaped sac with three openings, rough and irregular on the outer surface, smooth on the interior.

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* Since this was written my attention has been called to a report of a case published in the *New York Medical Journal*, vol. lxvii, page 298.

Subsequent History.—After the discharge of the sac referred to Miss F. gradually became better; in a few days menstruation ceased and her recovery became complete. Up to the present time she has had no return of her trouble.

Treatment.—Sulphate of morphine, a quarter of a grain, and atropine, one one-hundred-and-twenty-fifth of a grain, for the relief of the pain. Hayden's viburnum compound and phenalgin were also administered. When patient began to convalesce tonic treatment was instituted.

It will be noticed that this patient was a well-nourished person, not neurotic, with no uterine disease or displacement, and giving a history of painful menstruation without the discharge of membrane previous to the attack referred to. It is also to be noticed that she was unmarried and that she has been free from any subsequent attacks.

The mass discharged, while a typical one, as described in many text-books on the subject, might easily be mistaken for the product of conception. Indeed, a number of my colleagues to whom I exhibited the specimen declared it to be the remains of an early abortion. As there can be no doubt in regard to the virginity of my patient it is easy to understand how one might err in giving an opinion from a medico-legal standpoint.

In reference to the slight chest trouble in this case, I do not believe it had any relation to the menstrual condition, as her nutrition was good and her health seemingly perfect.

286 FORTY-SEVENTH STREET.

PUERPERAL FEVER *VERSUS* ANTISTREPTOCOCCIC SERUM.

By EDWARD F. BRENNAN, M. D.

July 27th.—Mrs. G., a primipara, twenty years old, was twenty-four hours in labor under the care of a very unclean midwife who, being unsuccessful, decided to send for a physician. The patient was then delivered of her baby by means of forceps with a slight laceration of the perinæum, which did not necessitate stitching.

After the expulsion of the placenta, which came away complete by abdominal expression, patient received a hot intra-uterine douche (mercury bichloride 1 to 3,000).

28th.—Condition of patient excellent. Temperature, pulse, and respiration normal.

29th.—Patient in excellent condition in the morning; had a slight chill in the evening.

30th, 10 A. M.—Temperature, 103° F.; pulse, 120; respiration, 30. Patient restless, skin hot and dry, marked nausea and vomiting.

5 P. M.—Temperature, 105° F.; pulse, 130; respiration, 35. Patient's condition same, with the exception of fœtid lochia and abdominal tenderness.

I then gave an intra-uterine douche of mercury bichloride, 1 to 5,000, and ordered vaginal douches of carbolic acid, 1 to 80, every four hours; also quinine sulphate, five grains; phenacetine, two grains; extract of aconite, a tenth of a grain, every three hours, without any effect.

31st, 10 A. M.—Temperature, 106° F.; pulse, 130; respiration, 35. Patient has an eruption of large blisters covering the breasts, buttocks, and face, containing a serous exudate. Lochia fœtid; marked diarrhœa and general prostration. Medical treatment the same, with hot mercury bichloride douches, 1 to 5,000, every three hours, and a dry dressing of equal parts of zinc oxide, bismuth, and talcum applied to blisters after puncturing.

I also advised curettement as the only apparent means of saving the patient's life, but no manner of argument would induce the husband of said patient to consent to operative measures, while perfectly satisfied to comply with any other method suggested.

August 1st, 2d, and 3d.—Temperature, 106° F.; pulse, 120 to 130; respiration, 30 to 35. Diarrhœa more marked and bloody. Patient refuses nourishment and is at times slightly delirious. Condition markedly septic. Spiritus frumenti, half an ounce; sulphate of quinine, five grains, every three hours. Intra-uterine douches twice daily. Vaginal douches, carbolic acid, 1 to 80, every three hours, and cold sponge baths. No improvement.

4th, 10 A. M.—Temperature, 104° F.; pulse, 120; respiration, 30. General condition fair. Sulphate of quinine, three grains; whisky, an ounce, every three hours. Nourishment for twenty-four hours consisted of milk, three pints; eggs, three.

5th (Ninth Day), 11 A. M.—Temperature, 106° F.; pulse, 125; respiration, 30. Lochia fœtid and a marked increase of blisters (previously mentioned) over the posterior surface of the body. Antiseptic douches appear to have no beneficial effect.

3 P. M.—Antistreptococcic serum, ten cubic centimetres, injected (Parke, Davis, & Co.). Temperature, 106° F.; pulse, 130; respiration, 35 at time of injection. Marked loss of flesh and strength.

6th, 10 A. M.—Temperature, 104° F.; pulse, 120; respiration, 25. Injected antistreptococcic serum, ten cubic centimetres. No increase in blisters. Slight salivation from douches of mercury bichloride, 1 to 5,000, but still continued their use.

4 P. M.—Temperature, 103° F.; pulse, 120; respiration, 30.

7th, 10 A. M.—Temperature, 101.4° F.; pulse, 120; respiration, 30. Injected antistreptococcic serum, ten cubic centimetres.

3 P. M.—Temperature, 103° F.; pulse, 120; respiration, 30. Diarrhœa bloody and with a gangrenous odor.

8th, 10 A. M.—Temperature, 101° F.; pulse, 100; respiration, 25. Injected antistreptococcic serum, ten cubic centimetres.

3 P. M.—Temperature, 100.4° F.; pulse, 110; respiration, 25. Internal medication and douches the same.

9th, 10 A. M.—Temperature, 99.5° F.; pulse, 90; respiration, 25. Marked loss of flesh, but condition good under the circumstances. Injected antistreptococcic serum, ten cubic centimetres.

4 P. M.—Temperature, 100° F.; pulse, 90; respiration, 25. Nourishment for twenty-four hours consisted of milk, two quarts; four eggs; whisky, eight ounces.

10th, 10 A. M.—Temperature, 100° F.; pulse, 90; respiration, 27. Lochia, slight odor. Blisters drying up; very small ones of about the size of a pea occasionally showing. Carbolic douche, 1 to 80, morning and evening; in the interval, sterile saline solution douches, which appear to give patient great relief. Injected antistreptococcic serum, ten cubic centimetres.

11th, 10 A. M.—Temperature, 100° F.; pulse, 90; respiration, 25.

4 P. M.—Temperature, 102° F.; pulse, 100; respiration, 25. When I saw the patient at this visit I concluded this sudden rise in temperature was due to the person in charge of patient having failed to douche her from 8 A. M. until 4 P. M.

Patient's general condition improved. Diarrhœa greatly lessened and free from blood. Nourishment retained for past twenty-four hours. Milk, two quarts; three eggs; whisky, six ounces. Sterilized saline douches every three hours.

12th, 10 A. M.—Temperature, 99.4° F.; pulse, 90; respiration, 27.

5 P. M.—Temperature, 99° F.; pulse, 85; respiration, 24. No diarrhœa; eruption completely cured. General condition much improved.

13th.—Temperature, pulse, and respiration normal.

14th.—Temperature, pulse, and respiration normal. Patient in excellent condition, giving all manifestations of complete recovery.

265 ALEXANDER AVENUE.

Therapeutical Notes.

A Stomachic.—*Riforma medica* for September 7th gives the following:

℞ Hydrochloride of orexine	30 grains;
Extract of gentian, Powdered althea root,	enough for 20 powders.

M. Divide into twenty powders and give from one to two daily in a cup of meat broth.

Leistikow's Lotion for Pruritus of the Scrotum.—The *Indépendance médicale* for October 25th gives the formula as follows:

℞ Corrosive sublimate	3¾ grains;
Alcohol, Chamomile water, each	375 "
Chloroform	5 drops;
Cherry-laurel water, enough to make	1,500 grains.

M.

The Treatment of Sore Nipples and Mastitis.—Dr. Rubeška (*Archiv für Gynäkologie*, lviii, 1; *Centralblatt für Gynäkologie*, November 11th) has observed 1,244 cases of sore nipples among 3,152 nursing women in the Prague School for Midwives. His treatment consisted in the application of compresses wet with a three-per-cent. solution of boric acid and covered with gutta-percha tissue. In almost all the cases lactation was continued, the nipple being simply protected with a shield, and in seventy per cent. of them the trouble subsided within ten days. Only about one and a half per cent. led to the occurrence of mastitis. When that did take place, the nipple was energetically disinfected, compresses wet with a half-per-cent. solution of corrosive sublimate were kept applied to it for two hours, the first milk was drawn by means of the breast pump, and an ice-bag was applied. If the inflammation began with a chill, high fever, and painful infiltration, he immediately injected two or three Pravaz syringefuls of a three-per-cent. solution of carbolic acid into the substance of the breast; if it began with less severity, this was not done unless the pain and fever continued on the second day. In only two cases thus treated did suppuration follow. No harm was done in any case, and the pain is described as not being great.

Capsules with Creosote.—*Progrès médical* for September 23d ascribes the following to Maurange:

℞ Creosote, Benzoin, of each	1½ grain;
Powdered vegetable charcoal	9 grains.

M.

An Ointment for Pruritus.—*Progrès médical* for September 23d attributes the following to Leredde:

℞ Salicylate of methyl	30 grains;
Oxide of zinc, Vaseline, of each	300 "

M.

For Alopecia.—Ἰατρικὴ Πρόοδος for October gives the following:

℞ Yellow precipitate of mercury	30 grains;
Flowers of sulphur	60 "
Oil of cade	225 "
Vaseline	450 "

M. For external application.

Lutaud's Ointment for the Melasma of Pregnancy.—*Riforma medica* for November 10th gives the following formula:

℞ Oxide of zinc	3 grains;
White precipitate	1½ grain;
Cacao butter, Castor oil, of each	150 grains;
Essence of roses	10 drops.

M. The face to be anointed morning and evening.

Kaposi's Ointment for Scabies.—*Riforma medica* for November 7th gives the formula as follows:

℞ Naphthol	75 to 150 grains;
Alcohol	q. s.;
Vaseline	1,500 "

M.

Sodium Vanadate as a Tonic.—The *Indépendance médicale* for October 18th gives the following formula:

℞ Sodium vanadate, Sodium arsenate, each	¾ of a grain;
Sodium glycerophosphate	150 grains;
Garus's elixir (a French preparation of saffron and vanilla)	4,500 "

M. S.: A dessertspoonful with each meal.

It is indicated in cases of anæmia, tuberculous disease, and diabetes. The effect of the arsenic is intensified and accelerated by the vanadium compound.

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A PECULIAR HOSPITAL.

IN the town of Niles, in Michigan, there is said to be an institution known as St. Luke's Hospital. The *Cleveland Journal of Medicine* has been investigating some of the methods pursued by the hospital, and the results are set forth extensively in its November issue. Concerning the hospital itself, its resources and its internal management, nothing remarkable is stated, but one of the means by which it seeks to obtain funds and patronage is peculiar, to say the least.

A letter is written to some medical man informing him of the excellence of the hospital and the high character of its professional staff, of which he is invited to become a "member," which he can do by remitting a certain sum of money—five dollars, we infer. His membership entitles him to send into the hospital for treatment any patient of his for whom hospital treatment may be desirable, and he is assured that he will receive a handsome percentage of the fees collected from such patient. He is informed that it is an "iron-clad rule" with the hospital never to appoint more than one physician in each place, and it is pointed out to him that his membership will be of great advantage to him in practice, inasmuch as he alone of his particular community will be in a position to afford patients the benefits of this remarkable institution; moreover, the hospital undertakes to inform the laity of his neighborhood that he has this advantage over his fellow-practitioners and to recommend him.

The hospital seems to be readily accessible by railway from an extensive region, and it is easy to see that, if a gudgeon can be found in each one of a large number of the towns contained in that area, the funds of the institution can be substantially enriched, but we have too much confidence in the common sense of the generality of medical practitioners to fear that this hospital and its questionable methods will meet with much encouragement, especially now that our Cleveland contemporary has exposed them so plainly. It is true that the names of a few men of note in the profession have been paraded, and with some show of authority, as showing those men's connection with this remarkable hospital, but, when its peculiar methods were pointed out to them, they have forbidden such further use of their names.

LEGISLATION FOR THE MEDICAL DEPARTMENT OF THE ARMY.

THE surgeon-general of the army has favored us with the text of a bill which he will submit to congress at this session. This bill is to increase the efficiency of the medical department both by increasing its size and by virtue of certain provisions which relate to the entrance of candidates into the corps. At present the medical department of the army has a total of one hundred and ninety-two medical officers. In addition to these there are at present in the service some four hundred civilian physicians serving under contract. The proposed bill will, if passed, authorize an increase of one hundred and twenty-four regular medical officers properly apportioned among the different grades. This increase is required both on account of the present necessities of the service and for future emergencies in case of war.

It is the policy of this government to depend for its armed force upon a regular army sufficient in size for the needs of peace and to act as a nucleus about which may be congregated the volunteer forces in time of war. This being the case, it is evident that the regular army in all its branches should be sufficient in numbers and efficiency to meet the requirements not only of a perfect organization in time of peace, but of expansion in time of necessity. With the advance of civilization and the consequent specialization of labor, the army, like all other branches of national life, has become highly specialized. The time is past when men could lay aside the implements of the workshop and the field and, congregating together, form effective fighting forces. The armies of to-day, from their size, their complexity of organization, and the multiplicity of detail necessary to their mobilization and support, require trained men and special means to insure their maintenance and efficiency. The military man, therefore, whether of line or staff, in any of its branches, is essentially a specialist, a specialist who has studied and who practises all means and methods toward the definite end of making an aggregation of men an effective offensive or defensive force. This being the case, the effectiveness of the force depends upon the efficiency of its directing or working units, and it can be efficient only in so far as those units are trained and capable of working together toward the definite end.

The medical department of the army is not alone for the succor of the sick and wounded. This is one of its great functions, but its greater function is to maintain the fighting force at its highest efficiency by preventing, so far as possible, disability of the individual members of the force by sickness. It necessarily follows that the military surgeon is not only a medical and surgical practitioner, but a sanitarian. And not only is he a physician, surgeon, and sanitarian, but an executive officer as well. The organization of a medical department requires divisions and subdivisions of authority by which its efficient working may be maintained. It follows that, however great the ability of a civil practitioner may be, he can not enter upon and immediately perform with efficiency the duties of a military medical officer. The questions of sanitation and hygiene which come up in the military service are peculiar and unlike those of civil life. The aggregation of large numbers of men in camp and field calls for special knowledge of hygiene and sanitation relative to conditions which the civil practitioner never meets with. Then, too, in time of war large general hospitals have to be established, which require for their efficiency a high order of executive and administrative ability on the part of the surgeons in command. Executive and administrative abilities of a high order are also called for in all the higher branches of the medical department, and these branches can not be properly administered except by men conversant with the complex methods incident to a highly specialized organization. For these reasons the medical department as an effective nucleus should not only be sufficient in size for the immediate working of a standing army, but large enough to be the directing force when volunteer forces are added until these latter forces can be trained to the proper point.

The number of officers in the medical department of the army is now so small that it barely sufficed for the needs of the army when on a peace basis, before the outbreak of the war with Spain, and was utterly inadequate in number to serve efficiently as a nucleus for organization when the army was increased. Now the increase in our coast defense has led to the establishment of eighteen posts in the Department of the East and ten on the Pacific coast, and a number of new posts have been established in the Hawaiian Islands and in Puerto Rico. To these are to be added a large number of stations, more or less permanent, in Cuba and in the Philippine Islands. The increase in number of the medical corps is therefore required, not only to meet the exigencies which now obtain in the service, but to provide a nucleus in case of future war.

The sections of the bill which relate to the appointment of candidates into the medical department provide for a probationary period of six months. During this probationary period the candidates are to attend the Army Medical School established in the city of Washington, and at the end of the prescribed period the faculty of the school will report to the secretary of war upon the fitness and relative standing of the probationary candidates. Those of the candidates who are recommended by the faculty will then be commissioned by the president to fill existing vacancies in the medical corps of the army. It is further provided that candidates who have rendered satisfactory service as acting assistant surgeons or as commissioned medical officers in the volunteer army of the United States for a period of six months or more shall be exempt from this period of probation. The reason for this provision for a probationary period is not only that the candidate may receive instruction in the duties of medical officers while at the Army Medical School, but that his fitness for a position in the medical department may be better determined than by the single brief examination which is all that is now required for entry into the corps.

It seems to us that the bill as presented is an altogether wise and most necessary one, and we cordially recommend it to the approval and support of the profession at large. The medical department of the United States army is recruited from the profession throughout the country. In its ranks are representatives from all the leading medical colleges of the United States. For this reason it is in many respects a representative body, and the dignity and standing of the profession at large are affected either for good or for ill by the efficiency or inefficiency with which the medical department of the army performs its work. More than that, the efficiency of the medical department of the army is a matter of national importance, for the lives and welfare of the individual members of the army and the efficiency of the army as a whole depend in large degree upon the efficiency with which this department is administered and worked. We would therefore recommend all possible effort on the part of the profession to further the passage of the bill.

THE SKILLED WITNESS.

There has been much comment of late upon the admitted defects of our system of court procedure in the matter of "expert" testimony, particularly that of "experts" in medicine. We of the medical profession have freely acknowledged the shortcomings of physicians as skilled witnesses, but we have never really felt that their weaknesses were due to either dishonesty or incompetency as a rule; we have rather imputed them to the faulty system under which skilled testimony is admitted by the courts. We are glad to see that much the same view of the matter is taken by Dr. William J. Herdman, of the University of Michigan, in a paper read by request at a meeting of the Association of Railway Claim Agents held on May 24th. Dr. Herdman shows convincingly, it seems to us, that the medical man who makes a poor show on the witness stand is not necessarily either a hired perjurer or an ignoramus, and he makes it evident that a well-informed and well-meaning physician may so fail to comprehend the real and essential purport of the questions put to him, or so fail to be adequately understood by the court officers, as to make his testimony, although given in all truth and fairness, seem open to severe criticism.

Dr. Herdman appears to look with favor upon some such remedy for all this as is supposed to be embodied in propositions that have been submitted to the legislatures of New York, Pennsylvania, and Illinois, but have thus far not been enacted as statutes. The essence of these propositions is that an official body of medical "experts" should be appointed by the courts or by the medical societies, and that they alone should be held competent to give skilled testimony. The same opinion has been emitted by a number of medical organizations, but we believe the scheme to be a delusion. It is in force in certain European countries, but it does not seem to give invariable satisfaction. This is not a journal of law, and we do not feel entitled to express an opinion on a legal question, but we have the impression that each party to an action at law is at liberty to produce such witnesses as it may choose, whether as to matters of fact or as to matters of opinion, and that it is the privilege of each party to cross-question all witnesses. We should like, however, to see the monstrosity known as the hypothetical question frowned down upon by the courts, and we take it that that is Dr. Herdman's desire, too. Still more should we like to see the lawyer's harangue, concealed under a question, stifled by the courts. A witness is not a criminal to be tortured, and that proposition ought to be admitted by judges.

AN OBJECT LESSON IN VACCINATION *VERSUS* SMALL-POX.

As is well known, small-pox is endemic in most Spanish-American countries. In December, 1898, small-pox was prevailing in Puerto Rico to such an extent that in January, 1899, the reports of post surgeons in sixteen out of the seventy-one municipalities showed three thousand cases of small-pox as having occurred in the previous two months. The governor-general on January 27, 1899, by General Order No. 7, ordained that "every resident who has not had this disease will be vaccinated, and hereafter all infants must be vaccinated before reaching the age of six months." Surgeon-Major Groff, director of vaccination in Puerto Rico (*Medical News*, November 25th), describes the government measures for the carrying out of this provision, which appear to have been extraordinarily well conceived and completely executed. A government vaccine farm was established, and by June 30th, when the work was closed, some 790,000 persons had been vaccinated, vaccine having been distributed to physicians free of cost. In view of the many difficulties encountered, the greatest credit reflects on the administration. As to results, Major Groff reports, "not a single death which could be strictly attributed to the vaccination occurred. There were some infected arms, and some of the people and a number of the municipalities asked for relief because the poor were not able to perform their accustomed labors, but this trouble was not serious. Not a single riot or lesser disturbance occurred. The people generally welcomed the operators." The total cost amounted to $32,000, or about four cents a head. Finally, Major Groff says: "At this date, October 20th, not a *single case of small-pox is known to either the military or the civil authorities*" (the *italics* are ours), "and it may be considered *stamped out* of Puerto Rico." And yet there are otherwise sensible people who denounce vaccination as, if not entirely useless, at least dangerous out of all proportion to the benefits conferred.

THE UNSCRUPULOUS PRESCRIPTION OF ENSLAVING DRUGS.

The *Canadian Pharmaceutical Journal* for November comments editorially under the simple heading "Criminal" upon a case occurring in a Canadian city in which a lady applied to a druggist for one ounce of cocaine. Finally the lady asked for one ounce of a six-per-cent. solution of cocaine. This, as also the former order, was refused, on the druggist finding that the lady wanted the drug for her son to take. Further inquiry elicited the facts that she had had no previous difficulty in getting her demands complied with, and that one of the leading physicians of the city had "said that it was all right to take it so long as the quantity was limited and the time" (occasion?) "not too frequent." Upon this the *Canadian Journal* comments as follows: "This lady's story was almost incredible, and yet her veracity was and is unquestionable; assuming it true, then a term in the penitentiary at stone-breaking would be none too severe a punishment for a doctor or a druggist who would aid a young life on the road to perdition for the paltry dollars which would be made from feeding the soul-destroying appetite." For the credit both of the medical and pharmaceutical professions, we can only say that we trust that there is some misapprehension of facts. Failing that, our own opinion is best conveyed by a hearty indorsement of the *Journal's* laconic heading, "Criminal!"

AN ANTIVIVISECTION STORY.

The title of a short story by Elizabeth Stuart Phelps, recently published by Messrs. Houghton, Mifflin, & Co., is *Loveliness*, which is the name given by a little girl to her pet dog. The dog is stolen, and its loss is depicted as having upon the child, an invalid, the effect of bringing her to death's door. The dog is finally recovered just as an experimenter in a medical school is about to subject it to vivisection. It is restored to its little mistress, whose recovery of health begins at that moment. This little story is cleverly told, and, although we can not admit that cruelty such as the author pictures is a fair representation of what is actually done in vivisection, we may add that it would be creditable to the antivivisectionists if more of their literature showed the general temperateness displayed by the author in this instance.

A PERSISTENT FLOW OF CEREBRO-SPINAL FLUID.

A somewhat remarkable case is that related by Dr. A. Lucae (*Berliner klinische Wochenschrift*, 1899, No. 40; *Wiener klinische Rundschau*, November 5th). A schoolboy, seventeen years old, was attacked with caries of the mastoid process of the temporal bone. An operation was undertaken for the removal of the diseased bone, and the dura and the arachnoid were found to have been perforated. Through the perforation there was such an abundant flow of cerebro-spinal fluid that, beyond the removal of a sequestrum, further operative procedures were abandoned. The flow continued for five weeks, in great abundance for the first two weeks, yet at no time were any cerebral symptoms present, and there was no fever or any disturbance of the pulse.

THE BUBONIC INFECTION OF PARAGUAY.

In view of the prevalence of the Oriental plague, a disease closely resembling it, said to prevail in Paraguay, becomes of interest. Dr. Diogène Decoud (*Semana Médica*, September 4th; *Indépendance médicale*, November 1st) describes an outbreak that occurred recently in which twenty-three out of three hundred and fifty soldiers were attacked in the course of three weeks. The disease begins suddenly with great prostration and high fever, and in from three to six hours the buboes are perceptible. They grow rapidly, reaching the size of a fist in a day or two. They are generally seated in the left groin, but sometimes in the right, and once the author has seen one in the axilla. They are exquisitely sensitive, but there is little involvement of the skin, and they usually terminate by resolution. During the period of full development of the disease the tongue is covered with a moist yellowish coat. Except slight congestion of the bases, there are no pulmonary signs, and there is no disturbance of the heart. In cases about to end fatally the abdomen is tympanitic, but painless. The author observed no diarrhœa; on the contrary, there was constipation. During the height of the disease the patient is apathetic. In the grave cases there is mild delirium with agitation and with occasional sudden movements that result in the patient's falling out of bed. As the fatal issue approaches, the pulse falls suddenly and then is accelerated.

LATENT ABSCESS OF THE PROSTATE.

At the recent French Congress of Urology (*Indépendance médicale*, November 1st) Dr. Desnos called attention to two forms of prostatic abscess to which the classical descriptions of symptoms would not apply. In the first form, of which he had seen two cases, an abscess of considerable size, large enough to cause retention of urine, formed in the course of prostatic hypertrophy, but without fever or other signs of suppuration. In the other form, of more frequent occurrence, small abscesses formed in the course of blennorrhagic prostatitis and burst into the urethra.

ILLEGAL PRACTICE IN THE COUNTY OF NEW YORK.

The Medical Society of the County of New York deserves great praise for its assiduity in detecting and punishing offenders against the medical-practice law. According to a report recently furnished to us by the secretary, Dr. William E. Bullard, from May to October, 1895, seventeen prosecutions were brought by the society, with ten convictions; from October, 1895, to October, 1896, fifty-six prosecutions, with thirty-six convictions; from October, 1896, to October, 1897, fifty-one prosecutions, with thirty convictions; from October, 1897, to October, 1898, thirty-seven prosecutions, with twenty-three convictions; from October, 1898, to October, 1899, forty-five prosecutions, with thirty-three convictions.

A CHECK TO SUBSTITUTION

We congratulate the firm of Fairchild Brothers & Foster on the successful issue of their suit to restrain an apothecary from repeating his offense of substituting some other preparation for their "essence of pepsin," theirs being specified. The defendant has to pay the costs, amounting, it is said, to about $500. It is to be hoped that this United States circuit court decision will act as a check on the wretched practice of substitution.

LEPROSY IN GUAM.

It seems that there are lepers in Guam, and that an officer of the navy who recently visited the island has recommended their removal to the Hawaiian leper settlement. This step may be found advisable, but as a rule, we think, a community should take care of its own lepers.

THE TREATMENT OF THE SUPPURATIVE STAGE OF SMALL-POX BY VACCINATION.

Vaccination during an attack of small-pox is not generally credited with any advantages. According to the *Riforma medica* for November 18th, however, Kotowtschikoff (*Zeitschrift für klinische Medicin*, xxxviii, 1-3, 1899), as the result of his own experience, as well as that of others, considers vaccination the best treatment for the suppurative stage of this disease. Inoculations of vaccine, repeated twice daily, have, says the author, a very great therapeutic effect, not only in the prodromal stage, but in the initial stage also. Daily inoculations begun on the first and second days after the appearance of the eruption, even in grave cases of the disease, cause the suppurative stage to pass through a milder course. The author, indeed, extends this practice to the third day, being convinced that even at this late period it influences its course favorably.

ITEMS.

A Bill for the Relief of Assistant Surgeons with the Rank of Captain in the Volunteer Army of the United States.—The following bill has been prepared by the surgeon-general and approved by the secretary of war:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That assistant surgeons in the volunteer army of the United States commissioned by the president as captains, in accordance with the provisions of an act for increasing the efficiency of the army of the United States and for other purposes (approved March 2, 1899), are entitled to the pay of a "captain mounted" from the date of their acceptance of such commission as prescribed by law.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending December 2, 1899:

DISEASES.	Week ending Nov. 25.		Week ending Dec. 2.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	52	10	53	19
Scarlet fever	163	9	149	7
Cerebro-spinal meningitis	0	4	0	3
Measles	291	12	275	11
Diphtheria	269	31	260	41
Croup	10	5	7	13
Tuberculosis	183	149	199	134
Chicken-pox	25	0	21	0

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending December 1, 1899:

Small-pox—United States.

Cairo, Ill	Nov. 30	3 cases.	
New Orleans, La	Nov. 18–25	6 "	
Chelsea, Mass	Nov. 18–25	1 case.	
Cleveland, Ohio	Nov. 18–25	8 cases.	
Nashville, Tenn	Nov. 18–25	3 "	
Portsmouth, Va	Nov. 18–25	5 "	2 deaths.

Small-pox—Foreign.

Antwerp, Belgium	Oct. 28–Nov. 4	7 cases,	2 deaths.
Prague, Bohemia, Austria	Oct. 28–Nov. 4	7 "	
Rio de Janeiro, Brazil	Oct. 12–20	93 "	67 "
Ontario, Canada	Nov. 10	20 "	
Quebec, Canada	Aug. 21–Nov. 27	138 "	
		All in Kamouraska County.	
City of Mexico, Mexico	Oct. 29–Nov. 5	3 cases,	2 deaths.
Vera Cruz, Mexico	Nov. 6–24		4 "
Moscow, Russia	Oct. 22–28	2 "	1 death.
Odessa, Russia	Oct. 28-Nov. 4	1 case.	
Warsaw, Russia	Oct. 22–Nov. 4		7 deaths.
Constantinople, Turkey	Oct. 25–Nov. 6		1 death.

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	Oct. 12–30		3 deaths.
Havana, Cuba	Nov. 16–23	10 cases,	4 "
Puerto Principe, Cuba	Nov. 18	1 case (soldier).	
Vera Cruz, Mexico	Nov. 8–24		3 deaths.

Cholera.

Hongkong, China	Oct. 1–7	8 cases,	1 death.
Kurrachee, India	Oct. 15–21		1 "
Yokohama, Japan	Oct. 7–14	1 case.	

Plague—Foreign.

Alexandria, Egypt	Nov. 6	1 case.	
Kurrachee, India	Oct. 14–31	7 cases,	4 deaths.
Cadiz, Spain	Nov. 27	1 case (suspected).	

The Death of Dr. Henry Hodgen Mudd, of St. Louis, is announced to have occurred on November 20th, in the fifty-fifth year of his age. Dr. Mudd was one of the most prominent and esteemed medical men of St. Louis, and his death will be widely felt as a bereavement to the profession and to the community.

A Bill for the Relief of Acting Assistant Surgeons in the United States Army.—The following bill has been prepared by the surgeon-general and approved by the secretary of war:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

SECTION 1. That on and after the passage of this act acting assistant surgeons in the army of the United States shall have the same rights and privileges as regards leaves of absence as commissioned officers of the army.

SEC. 2. Acting assistant surgeons in the army of the United States who have been appointed since the first day of May, 1898, who have been absent from duty, by proper authority, on account of sickness contracted in the service shall be paid for the time of such absence at the rate per month specified in their contracts.

A Bill for the Increase of the Medical Department of the Army.—The following bill has been prepared by the surgeon-general and approved by the secretary of war:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

SECTION 1. That there shall be added to the number of medical officers of the army now authorized by law four assistant surgeons-general with the rank of colonel, ten deputy surgeons-general with the rank of lieutenant-colonel, thirty surgeons with the rank of major, and eighty assistant surgeons with the rank of first lieutenant who shall have the rank of captain at the expiration of five years' service, as now provided by law. Provided that the original vacancies created by this act in the grade of colonel, lieutenant-colonel, and major shall be filled by seniority promotion in accordance with established laws and regulations.

SEC. 2. Hereafter candidates for appointment in the medical corps of the army, who pass a medical examining board in compliance with existing regulations, shall be appointed acting assistant surgeons for a probationary period of six months; during this probationary period they shall attend the Army Medical School established at the Army Medical Museum in the city of Washington, and the faculty of the Army Medical School shall report to the secretary of war at the end of the prescribed course of instruction upon the fitness and relative standing of the probationary candidates; those who are recommended by the faculty may then be commissioned by the president to fill existing vacancies in the medical corps of the army.

SEC. 3. Acting assistant surgeons appointed in accordance with the provisions of Section 2 shall be paid one hundred dollars a month and shall not be entitled to any allowances or to mileage in reporting for the prescribed course of instruction or in returning to their homes if they are not recommended for a commission.

SEC. 4. The number of acting assistant surgeons appointed in accordance with the provisions of Section 2 shall not exceed the number of vacancies existing or to result from retirements during the probationary period.

SEC. 5. Candidates who have rendered satisfactory service as acting assistant surgeons or as commissioned medical officers in the volunteer army of the United States for a period of six months or more shall be exempted from this period of probation and may be commissioned at once if vacancies exist and they pass a satisfactory examination as to their physical, moral, and professional qualifications.

The Association of Acting Assistant Surgeons of the Spanish War was organized in New York on Tuesday, December 5th. Dr. Azel Ames, of Massachusetts, was chosen to be president.

The Practitioner's Society of Dallas, Texas, was organized at the Hermitage Hospital on December 1st, and the following officers were elected: President, Dr. Lawrence Ashton; vice-president, Dr. J. B. Tittering-ton; secretary, Dr. C. L. Johnson. The next meeting will be held at the residence of the president on Monday, December 18th.

The Randall's Island Hospitals and Asylums.—Dr. E. L. Cocks has been appointed attending dermatologist to these institutions.

The German Hospital in Brooklyn, Eastern District, was opened with suitable ceremonies on Monday, December 4th.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 2d inst., Dr. R. B. H. Gradwohl read a paper entitled Epidemic Cerebrospinal Meningitis; a Clinical and Bacteriological Study of Thirty-four Cases.

The Buffalo Academy of Medicine.—At the last quarterly meeting, on Tuesday evening, the 5th inst., the programme for the Section in Surgery was as follows: The Value of Normal Salt Solution in Surgery, with Abstracts of Cases, by Dr. Chauncey P. Smith; Hypertrophy of the Prostate, by Dr. C. F. Durand; and Desiccated Suprarenal Capsule in Acute Coryza, by Dr. Frederick H. Millener.

Changes of Address.—Dr. H. I. Birkenhauser, to No. 216 East Seventeenth Street, New York; Dr. W. V. Richtmire, to No. 322 East Nineteenth Street, New York.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 25 to December 2, 1899:*

BATH, THOMAS W., Acting Assistant Surgeon, United States Army, having returned to San Francisco, will report at the United States General Hospital, the Presidio.

DE WITT, CALVIN, Lieutenant-Colonel and Deputy Surgeon-General, United States Army, is relieved from the command of the Josiah Simpson General Hospital, Fort Monroe, Virginia, and O'REILLY, ROBERT M., Major and Surgeon, United States Army, will take charge of that hospital.

JAMES, WILLIAM F., Acting Assistant Surgeon, United States Army, is assigned to duty on board the transport *Wyefield,* during the voyage of that vessel to the Philippine Islands.

MOLONY, LOUIS A., Acting Assistant Surgeon, United States Army, is assigned to duty at the United States General Hospital, Presidio of San Francisco.

WINNE, C. K., Major and Surgeon, United States Army, is granted leave of absence for thirty days.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending December 2, 1899:*

BEEBE, D. G., Assistant Surgeon. The order of October 14th, detaching him from the *Bennington* and ordering him to the *Ranger,* is revoked.

DAVIS, E., Assistant Surgeon. Appointed assistant surgeon, November 21, 1899.

LUMSDEN, G. P., Surgeon. Ordered to temporary duty on the *Franklin* during the leave of absence of GUTHRIE, J. A., Passed Assistant Surgeon; thence home to await orders.

STOUGHTON, J., Passed Assistant Surgeon. The order of October 14th, detaching him from the *Monadnock* and ordering him to the *Bennington,* is revoked.

TAYLOR, J. S., Assistant Surgeon. Detached from the *Independence* and ordered to the *Scindia.*

WARD, B. R., Passed Assistant Surgeon. Ordered to the *Independence.*

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending November 30, 1899:*

PECKHAM, C. T., Surgeon. Granted leave of absence for four days.

GLENNAN, A. H., Surgeon. Relieved from duty as quarantine officer at the port of San Juan, Puerto Rico, and directed to proceed to New Orleans and assume command of the service.

PETTUS, W. J., Surgeon. Relieved from duty at the Cape Charles Quarantine Station and directed to proceed to Cleveland and assume command of the service.

SMITH, A. C., Passed Assistant Surgeon. Relieved from duty at Norfolk, Virginia, and directed to report at Washington for special temporary duty.

STIMPSON, W. G., Passed Assistant Surgeon. To rejoin station at St. Louis.

EAGER, J. M., Passed Assistant Surgeon. Relieved from duty at Detroit and directed to proceed to Cincinnati and assume command of the service.

OAKLEY, J. H., Passed Assistant Surgeon. Relieved from duty at Evansville, Indiana, and directed to report at Washington for special temporary duty.

SPRAGUE, E. K., Passed Assistant Surgeon. Relieved from duty in the Hygienic Laboratory, Washington, and directed to proceed to New York and report to Surgeon L. L. WILLIAMS (Immigration Depot) for special temporary duty.

THOMAS, A. R., Passed Assistant Surgeon. Relieved from duty at the Reedy Island Quarantine Station and directed to report at Washington for special temporary duty.

WICKES, H. W., Passed Assistant Surgeon. Relieved from duty at Cleveland and directed to report at Washington for special temporary duty.

GREENE, J. B., Passed Assistant Surgeon. To report at Washington for special temporary duty. To rejoin station at Boston.

MATHEWSON, H. S., Assistant Surgeon. Relieved from duty at the San Francisco Quarantine Station and directed to report at Washington for special temporary duty.

LAVINDER, C. H., Assistant Surgeon. Relieved from duty as quarantine officer at the port of Ponce, Puerto Rico, and detailed as quarantine officer at San Juan, Puerto Rico.

GRUBBS, S. B., Assistant Surgeon. Relieved from duty as quarantine officer at the port of Cienfuegos, Cuba, and directed to report at Washington for special temporary duty.

RUSSELL, H. C., Assistant Surgeon. Relieved from duty at Cairo, Illinois, and directed to proceed to Boston for duty and assignment to quarters.

VON EZDORF, R. H., Assistant Surgeon. To rejoin station at New Orleans.

FRICKS, L. D., Assistant Surgeon. To report at Washington for temporary duty.

GWYN, M. K., Assistant Surgeon. Relieved from duty at Boston and directed to proceed to Chicago for duty and assignment to quarters.

CORPUT, G. M., Assistant Surgeon. To report at Washington for special temporary duty.

RICHARDSON, T. F., Assistant Surgeon. Relieved from duty as quarantine officer at the port of Nuevitas, Cuba, and directed to proceed to the Reedy Island Quarantine Station and assume command of the service.

KING, W. W., Assistant Surgeon. Relieved from duty at New Orleans and assigned to duty as quarantine officer at Ponce, Puerto Rico.

KORN, W. A., Assistant Surgeon. Relieved from duty at Chicago and directed to proceed to Evansville, Indiana, and assume command of the service.

HOLT, J. M., Assistant Surgeon. Relieved from duty at St. Louis and directed to proceed to Cairo, Illinois, and assume command of the service.

EDSON, ELMER R., Assistant Surgeon. To proceed to St. Louis for duty and assignment to quarters.

WILLE, CLARENCE W., Assistant Surgeon. To proceed to Boston for duty and assignment to quarters.

AMESSE, JOHN W., Assistant Surgeon. To proceed to Detroit for duty and assignment to quarters.

WILSON, ROBERT L., Assistant Surgeon. To proceed to San Francisco for duty and assignment to quarters.

BROWN, B. J., Jr., Acting Assistant Surgeon. Granted leave of absence for three days.

FRICK, JOHN, Acting Assistant Surgeon. Relieved from duty at Santiago, Cuba, and directed to proceed to Havana, Cuba, for duty.

LINDSLEY, J. M., Acting Assistant Surgeon. Detailed as quarantine officer at the port of Cienfuegos, Cuba.

STONE, OWEN W., Acting Assistant Surgeon. Detailed as quarantine officer at the port of Nuevitas, Cuba.

Appointments.

EDSON, ELMER R., of Indiana; WILLE, CLARENCE W., of Pennsylvania; AMESSE, JOHN W., of Michigan, and WILSON, ROBERT L., of Texas, commissioned as assistant surgeons.

Society Meetings for the Coming Week:

MONDAY, *December 11th:* New York Academy of Medicine (Section in General Surgery); New York Academy of Sciences (Section in Chemistry and Technology); New York Medico-historical Society (private); New York Ophthalmological Society (private); Lenox Medical and Surgical Society, New York (private); Harlem Medical Association of the City of New York; Gynæcological Society of Boston; Burlington, Vermont, Medical and Surgical Club; Norwalk, Connecticut, Medical Society (private).

TUESDAY, *December 12th:* New York Academy of Medicine (Section in Genito-urinary Surgery); New York Medical Union (private); New York Obstetrical Society (private); Buffalo Academy of Medicine (Section in Medicine); Kings County, New York, Medical Association; Rome, New York, Medical Society; Medical Society of the County of Rensselaer, New York; Newark (private) and Trenton, New Jersey, Medical Associations; Clinical Society of the Elizabeth, New Jersey, General Hospital and Dispensary; Northwestern Medical Society of Philadelphia; Practitioners' Club, Richmond, Kentucky; Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, *December 13th:* New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Society of the Alumni of the City (Charity) Hospital; Society for Medical Progress, New York; Pittsfield, Massachusetts, Medical Association (private); Philadelphia County Medical Society.

THURSDAY, *December 14th:* Society of Medical Jurisprudence and State Medicine, New York; Brooklyn Pathological Society; Medical Society of the County of Cayuga, New York (semiannual); South Boston, Massachusetts, Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *December 15th:* New York Academy of Medicine (Section in Orthopædic Surgery); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society; Chicago Gynæcological Society.

Births, Marriages, and Deaths.

Married.

BURRITT—DRUMMOND.—In St. Louis, on Wednesday, November 29th, Dr. William H. Burritt, of Huntsville, Alabama, and Mrs. Josephine H. Drummond.

CHILDS—MCGRAW.—In New York, on Tuesday, November 28th, Dr. Albert Ewing Childs and Miss Amelia McGraw.

GIBBS—HOBBY.—In Iowa City, Iowa, on Monday, October 16th, Lieutenant G. S. Gibbs, Jr., United States Signal Corps, and Miss Ruth A. Hobby, daughter of Dr. C. M. Hobby.

HINCKLEY—CHANCE.—In Chicago, on Wednesday, November 22d, Dr. Hugh Hinckley, of New Orleans, and Miss Mae Louise Chance.

LIBBEY—WEDDLETON.—In Nashua, New Hampshire, on Wednesday, November 22d, Dr. Charles Emerson Libbey and Miss Nellie Parker Weddleton.

ROBIN—TITUS.—In New Orleans, on Wednesday, November 29th, Dr. Ernest Alexis Robin and Miss Mary Titus.

SCHAEFFER—NAULTY.—In Brooklyn, on Monday, November 27th, Dr. Joseph William Schaeffer and Miss May Jordan Naulty.

SHEPARD—GROSVENOR.—In Athens, Ohio, on Monday, November 27th, Dr. O. M. Shepard, of Columbus, Ohio, and Miss Grace Grosvenor.

TUCKER—DERBY.—In New York, on Tuesday, November 28th, Professor Samuel A. Tucker and Miss Anne Caroline Derby, daughter of Dr. Richard H. Derby.

Died.

Garside.—In Brooklyn, on Friday, December 1st, Dr. William Briggs Garside.

Miles.—In Sag Harbor, Long Island, on Thursday, November 30th, Dr. Edgar Miles, in the seventy-sixth year of his age.

Morris.—In Birmingham, Alabama, on Thursday, November 30th, Mrs. Susie Morris, wife of Dr. Lewis Coleman Morris.

Roussel.—In New Orleans, on Friday, December 1st, Mrs. Marie Ella Andrews Roussel, wife of Dr. J. Numa Roussel.

Sayre.—In Monticello, Missouri, on Wednesday, November 29th, Dr. John Sandford Sayre, United States Navy, retired.

Slough.—In Easton, Pennsylvania, on Monday, November 27th, Dr. Granville B. Slough, United States Navy.

Wyman.—In Providence, Rhode Island, on Sunday, November 26th, Dr. Frank L. Wyman, in the fortieth year of his age.

Letters to the Editor.

THE ÆTIOLOGY OF BERIBERI.

Buffalo, N. Y., *November 29, 1899.*

To the Editor of the New York Medical Journal:

Sir: Because "Dr. Takaki's Japanese theory that rice produces kakke . . . does not hold water" (see p. 789, *New York Medical Journal*, November 25th), allow me to refer to an article of Dr. K. Yamagiva, professor at the Imperial University at Tokio, in Virchow's *Archiv*, Band clvi, 1899. He calls attention to the chief pathologico-anatomical changes: 1. Dilatation and hypertrophy of the right and left ventricles, with fatty degeneration of the heart muscle. 2. Degeneration of the peripheric nerves. 3. Atrophy and degeneration of the muscles. 4. Parenchymatous degeneration of the kidneys. 5. Dropsy. Dr. Yamagiva explains the changes by a hypothetical poison which, either through direct influence on the walls of the vessels or through influence on the nerves of the vessels causes contraction of the smallest arteries. This increases the resistance in the periphery of the pulmonary and general circulation, with consecutive changes of the heart, the result of which is a bad nutrition of the organs and tissues with regressive changes. He believes that this poison is brought into the body preformed. He uses the same arguments as the other adherents of the intoxication theory have used, and also some new ones—*i. e.*, that the beriberi in infants subsides promptly when the sick mother stops nursing; that, as in other intoxications, a central scotoma is often found; and that in a certain state of the disease laxatives have often a very favorable influence on its course. He thinks that the poison arises from a certain sort of rice badly preserved. "*Kakke oder Beri-Beri bedeutet nach meiner Auffassung eine durch den täglichen Gebrauch einer schlecht aufbewahrten Sorten von gekochtem Reis als Hauptnahrung entstehende Intoxications-Krankheit.*"

The clinical picture described by Dr. Ashmead of beriberi is somewhat mysterious—*i. e.*, "We must consider that the respiration of the beriberi patient is necessarily abdominal." I thought that one half part of the human race had an abdominal respiration, and the other had a costo-abdominal.

The logical conclusion of the sentence "Insufficiency of alimentation can not be the cause of beriberi, because there is no deficiency of red corpuscles in beriberi blood," goes too far for me. I doubt the statement. Mephistopheles said: "*Blut ist ein ganz besondrer Saft.*" And I think we do not know enough about the composition of the blood to give us the right to draw far-reaching inferences.

I do not know whether Dr. Yamagiva will be made a nobleman. E. E. Blaauw, M. D.

ATROPINE IN DISEASE OF THE EYE.

Kansas City, Mo., *November 25, 1899.*

To the Editor of the New York Medical Journal:

Sir: In your journal for November 18th you quote Dr. Edward Jackson, of Denver, as suggesting that physicians should never use atropine in conjunctivitis. This, in my opinion, is not good advice for the physician who is not expert at making a diagnosis, to whom Dr. Jackson evidently refers. He says that much harm is sometimes done by the use of atropine, but says nothing about the eyes that have been lost because atropine had not been used.

In the November number of the *Western Medical Journal*, in an article on the importance of dilating the pupil in treating diseases of the eye, I state that four patients have recently come under my observation each of whom had lost an eye because atropine had not been used.

I also state that if atropine were used in all eye diseases more eyes would be saved than if it were not used in any of them. F. G. Murphy, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XLVIII.

PRIVILEGED COMMUNICATIONS.

(*Continued from page 791.*)

Rule Applies to Knowledge Regarding Testamentary Capacity.—There are certain classes of cases to which the applicability of the statutes sealing the lips of the physician regarding information gained in his professional capacity have been or are seriously questioned.

At an early date it was thought that the statutes enjoining secrecy upon physicians could not have been intended to apply to testamentary cases. Justice Bradford, in 1850, after a somewhat extended examination of the question, expressed it as his opinion that he did not think they were within the reason or the intention of the statute.* As late as 1883 this opinion was cited with approval and followed in the surrogate court,† but in 1886 the court of appeals of New York repudiated the distinction between testamentary cases and those of the ordinary sort. Justice Earl, in delivering the opinion of the court, logically said: "But it is claimed that the statute should be held not to apply to testamentary cases. There is just as much reason for applying it to such cases as to any other, and the broad and sweeping language of the two sections can not be so limited as to exclude such cases from their operation. There is no more reason for allowing the secret ailments of a patient to be brought to light in a contest over his will than there is for exposing them in any other case where they become the legitimate subject of inquiry."[*] This decision has been followed by an almost unbroken line of decisions in several of the States having such statutes, so that it may now be stated with reasonable certainty that the knowledge of a physician gained from a professional relation with his patients is protected as fully in testamentary cases as in those of any other sort.[†] There has, however, in New York been a disposition shown to relax from the liberal and broad interpretation of the law by permitting the physician to be asked whether or not the information acquired by him, which is desired to be shown in the case, was necessary to enable him to act in his professional capacity, and, upon his answering this question in the negative, to permit him to disclose such information.[‡]

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* Allen *vs.* Public Administrator, 1 Bradf., 221.

† Whelpley *vs.* Loder, 1 Demarest, 368.

The privilege which prevents the physician from disclosing all information gained in the course of his professional intercourse is one which may be waived by the patient, and it has been very properly held that, where the patient requests the physician to place his name upon the patient's will as subscribing witness, he thereby waives the privilege and invites a full and proper examination of the matters and facts as to which the physician's lips would otherwise have been sealed.[#]

Regarding Inquisition of Lunacy.—The question whether or not a regular attending physician is competent in an inquisition of lunacy to testify regarding his patient's condition is one upon which there does not seem to be a decision by a court of last resort. Justice Werner was of the opinion that the statute did not disqualify the physician; he said: "I do not think the section applies to a proceeding of this character. No physician can be better qualified to testify to the sanity or insanity of a person than he who has for some time attended such person in a professional capacity."[||] The latter part of this proposition is undoubtedly correct, yet the same statement may be made with equal force in case of the contest of a will upon the ground of a want of testamentary capacity on the part of the testator; and, yet we have just seen that the law applies in such cases. Until this question is settled by a more authoritative decision it may well be considered in doubt.

Application in Criminal Cases.—It has been observed that by the express limitation contained in the the urine, where it was as frequently found, it was rare- statutes of several States the privilege extended to knowledge professionally obtained by the physician applies only to civil cases.[*] This limitation precludes both the physician and patient from the right of withholding, or having such information withheld, where it is relevant to the subject of inquiry in a criminal proceeding.[†] In those States where the privilege is not expressly limited by statute to civil proceedings there is some difficulty in determining with certainty the extent to which the courts allow the privilege. A careful examination of the cases relative to the subject discloses precedents extending to such knowledge the protection of the law and others denying it such protection. The facts and circumstances upon which these conflicting decisions have been rendered seem to suggest a classification of the precedents under three heads, by which arrangement the apparent conflict of authority is overcome, and, it seems, a uniform rule may be laid down, as follows:

I. Communications had for the purpose of doing an unlawful act or committing a crime are not within the meaning of the law, and will not be protected.[‡] Thus, a consultation had with a physician relative to the unlawful producing of an abortion is not within the protection of the law, and the witness may be compelled to disclose the same.[#] The procuring of an abortion is not, however, necessarily a criminal act; therefore in some jurisdictions it is held that before the protection of the privilege will be denied it must be shown that the mother's life or health did not necessitate the operation.[||]

II. When the object of the criminal action is the prosecution of the patient's murderer, then the privilege can not be insisted upon by the accused murderer so as to preclude the deceased's physician from disclosing the condition in which he found deceased. Thus, where a physician was called to attend a patient who had been feloniously poisoned, the poisoner, upon trial, objected to a disclosure by the physician of the condition in which he found the patient, claiming that such information was privileged; but the court denied that the privilege applied in such a case.[△] The reason for denying the privilege in such a case is that the evident intention of the legislature in passing these laws was to protect the patient from an improper disclosure of his infirmities, whereas the application of the rule in such a case would act as a shield to the patient's murderer, a purpose which the legislature neither contemplated nor designed the act to accomplish.[◊]

III. In ordinary criminal actions the privilege applies equally as in civil matters.[‡] Thus, where an abortion had been performed and, after the discovery of the commission of the crime, the district attorney sent a physician to attend the girl, such physician was not permitted to testify regarding knowledge which he gained in attending her. The court, in discriminating between this case and those coming under the second class, said: "But in that decision (one coming under the second class) the statute was construed, and we held it did not cover a case where it was invoked solely for the protection of the criminal, and not at all for the benefit of the patient, and where the latter was dead, so that an express waiver of the privilege had become impossible. The present is a different case."[*] In this connection it might be pertinent to inquire whether the death of the patient after the witness assumed professional care over her would have left him free to disclose those facts which he learned in his treatment of her, or whether the dishonorable and criminal acts causing her death would, if disclosed, cast such a cloud of dishonor and shame upon her memory as to still preserve a distinction between this case and the one referred to under classification II, where deceased came to his death by poisoning. There seems to be no case marking the exact line of distinction. It is believed, however, that so long as the physician's silence is necessary for the welfare of the patient, whether living or dead, the privilege will be enforced.[†]

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[*] Renihan *vs.* Dennin, 103 N. Y., 573.

[†] *In re* Flint, 100 Cal., 391, 34 Pac. Rep., 863; *In re* Redfield, 116 Cal., 637; Heuston *vs.* Simpson, 115 Ind., 62, 17 N. E. Rep., 261; Gurley *vs.* Park (Ind.), 35 N. E. Rep., 279; Denning *vs.* Butcher, 91 Ia., 425, 59 N. W. Rep., 69; Frasier *vs.* Jennison, 42 Mich., 206; Thompson *vs.* Ish, 99 Mo., 160.

[‡] *In re* Halsey Estate, 9 N. Y. Supp., 441; Herrington *vs.* Winn, 14 N. Y. Supp., 612.

[#] *In re* Mullin's Estate, 110 Cal., 252, 42 Pac. Rep., 645; McMaster *vs.* Scriven, 86 Wis., 162.

[||] *In re* Benson (Co. Ct.), 16 N. Y Supp., 111.

[*] See MS., p. 812.

[†] People *vs.* Lane, 101 Cal., 513, 36 Pac. Rep., 16; People *vs.* West, 106 Cal., 89, 39 Pac. Rep., 207.

[‡] 19 Am. and Eng. Enc. of Law, 140; State *vs* Kidd, 89 Ia., 54.

[#] State *vs.* Smith, 99 Ia., 26, 68 N. W. Rep., 428.

[||] Guptill *vs* Verback, 58 Ia , 98.

[△] People *vs.* Harris, 136 N. Y., 423.

[◊] Pierson *vs.* People, 79 N. Y., 424.

[‡] Post *vs.* State (Ind. App.), 42 N E. Rep., 1120; State *vs* De Poister, 21 Nev., 107.

To whom Privilege Belongs.—The privilege of secrecy insured by legislative grant respecting all professional communications is a right extended to the patient and not to the physician,[‡] and it is a right which the patient may assert or waive as he chooses; and in the event of the patient's waiver the physician may be compelled to testify. Nor does the right cease with the death of the patient, as the physician is as strongly bound to preserve silence after that event as while his patient was in life.[#] Nor does it seem that the rule is otherwise regarding the extent of the right vested in the patient in those States in which the statute reads that the physician "shall not be *compelled* to disclose," etc. The supreme court of Wisconsin, in an opinion both cogent and logical, shows that the protection of the patient, who alone would have been injured by the disclosure of his infirmities, was the object and aim of the legislature, and that in order to accomplish this end that right to make a disclosure can not be left discretionary with the physician, but that "the physician can neither be *compelled* nor *allowed* to disclose it, as a witness, against the will or without the consent of the patient."[‖]

The protection which the statute conveys to the patient relates, it seems, only to the physician's giving evidence in court relative to information professionally acquired, but does not prohibit such disclosures in his general intercourse.[△] The legislature, in framing this law, evidently assumed that in all cases where the physician is not subject to coercion, as is an ordinary witness upon the witness stand, the patient's secrets would be as sacred and inviolable in the breast of the physician, unprotected save by his own sense of professional propriety, as though secrecy were enjoined by the strictest legislative enactment. In this connection it may be proper to add that no professional man having a proper regard for the important relation which he bears to society, and a just appreciation of the absolute confidence which the proper performance of his duties necessitates being reposed in him, will under any circumstances be betrayed into violating such confidence, or outraging the honor of his profession by improperly disclosing facts necessarily learned in the course of his professional duties. The temptation is undoubtedly strong at times to publish the details of an operation or treatment which reflects favorably upon one's professional skill, yet such a publication, unauthorized by the patient, can not be regarded otherwise than reprehensible in the extreme. In a Michigan case, which arose nearly twenty years ago, Justice Campbell, in delivering the opinion of the court, went beyond the question at issue to rebuke one of the parties, a physician, who had published the details of an operation recently performed by him. The justice said: "We can not forbear, in the interest of public morality, to call attention to the fact that the plaintiff, if a physician, has no right to publish matter of professional confidence, and that the article, if published as he wrote it, without the approbation of the person operated on, would have been a very plain breach of professional duty. Such publications, for no purpose of public instruction and only for private gratification or laudation, deserve severe censure."[*]

(*To be continued.*)

Pith of Current Literature.

The Medicinal Treatment of Uterine Cancer.—Dr. Thomas More Madden (*British Medical Journal*, October 14th) refers to celandine, or swallow wort, as a very old remedy which has been again recently reintroduced into practice in the treatment of cancer cases, and says that it was employed in some cases of malignant disease of the uterus in his wards. In three of these in which the celandine extract was locally applied and administered internally, the condition of the cancerous ulceration was rapidly and distinctly improved for a time, in two no change was produced, but in none of them was any permanent curative effect produced. The local injections of absolute alcohol, as recommended by Schultz, were employed in some of his inoperable cases of cervical cancer. In one of these the first injection of alcohol was followed by such local pain and constitutional disturbance as to prevent its repetition. In two other cases similar but deeper parenchymatous injections, repeated at intervals of two or three days, were attended with some diminution in the amount and fœtor of the discharge, and apparent shrinkage in the diseased structure. In neither of these cases, however, did the patient remain sufficiently long under observation to warrant any conclusion as to the probable duration of these effects. Several years ago Dr. Madden called attention to the value of methylene blue as a local analgetic in pruritus and other gynæcological cases, and since then he has frequently employed it in this way and to relieve the pain of uterine cancer. In cases of inoperable cervical carcinoma, a pledget of sterilized gauze saturated in a five-per-cent. solution of methylene blue will occasionally not only allay pain, but also cleanse and temporarily improve the condition of the parts, while the injection of a similar solution by the needle into the substance of a medullary growth may for a time cause some diminution of its size and abatement in the amount and fœtor of the discharge.

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[*] People *vs.* Murphy, 101 N. Y., 126.

[†] In the case of State *vs.* Harris, *supra*, a disposition was shown to sacrifice the honor of the deceased patient, where knowledge professionally obtained was material in the prosecution of deceased's murderer, rather than impede justice. The evidence there offered was admissible upon other grounds, however, and therefore the opinion can not be considered authoritative upon this particular point.

[‡] Johnson *vs.* Johnson, 14 Wend, 641.

[#] Grattan *vs.* Met. Life Ins. Co., 80 N. Y., 281; Cahen *vs.* Continental Life Ins. Co., 41 N. Y., 296.

[‖] Boyle *vs.* N. W. Mut. Relief Assn., 95 Wis., 313, 70 N. W. Rep., 351.

[△] See dictum in Boyle *vs.* N. W. Mut. Benefit Assn., *supra.*

[*] Sullings *vs.* Shakespeare, 46 Mich., 413.

The Therapeutic Value of Alcohol.—At the New York State Medical Association Dr. Thomas J. Hillis (*Medical News*, November 4th) said that until recently we had very little definite information as to the medical properties of alcohol. There had been a good deal of talk, mostly coming from those who were fanatically opposed to its use, and every good effect had been denied to it. Some even went so far as to say that it was not a stimulant. Not long ago Professor Atwater showed that it was used by the system as a food. There was no doubt that in various allotropic modifications which it underwent in the chemical laboratory of the body it developed many other properties beyond that of stimulation. It was a tonic, heat-producing food of the most valuable kind. It had been abused and would be abused, but the abuse of a thing could not logically be argued against the proper use of it.

It was in conditions of fatigue particularly that alcohol was of special service. It was much better than coffee and produced its effect more rapidly. When great fatigue existed it was promptly burned up in the body and did not produce its ordinary intoxicating effect. Under these conditions from eight to ten ounces of it even might be taken and produce only slight stimulation. Like shavings in a glass furnace, it was burned up by the fire of muscular metabolism. Much of the abuse of alcohol by the medical profession had come from the fact that it had been given too early or too late in the course of a disease, or that too much or too little of it had been given. Its administration must not be left to the nurse, but must be assumed by the doctor himself. It must be regulated not according to any fixed rule, but according to the effect produced upon the patient.

The primary factor in the matter was the stomach. If the stomach took food well, then alcohol was not needed; but when food could not be taken, alcohol was of the greatest service. Especially it must never be given if it disturbed the stomach. One day it might be poison in a given case and the next day it might do good. Alcohol should never be taken at the beginning of a journey, for it lowered the temperature and increased the tendency to fatigue. At the end of a journey it was usually of very great service. At the beginning of diseases that were accompanied by excitement it would do harm. In exhausted conditions of the patient, especially when nutriment was not taken well, it was of the greatest service. It acted in four minutes, while beef tea required twenty to act and was not as efficient. Alcohol should never be taken immediately after meals, for it paralyzed the digestive ferment, coagulated the albuminoids, relaxed the walls of the stomach, and might stop the process of digestion entirely. Three hours after digestion, especially if the fatty acids were present, causing the condition known as pyrosis, alcohol would neutralize the fatty acids, stimulate the peristaltic action of the stomach, and get rid of the uncomfortable feeling. Dr. Didama and Dr. H. O. Marcy dissenting, Dr. Hillis said that alcohol was under all circumstances the best tonic that we had, and that for it we should sacrifice willingly most of the drugs of the pharmacopœia.

Phenylhydrazin as a Test for Sugar in the Urine.—Dr. Coriat (*Boston Medical and Surgical Journal*, November 23d) states that phenylhydrazin forms in combination with different sugars crystals, which in every case have a definite morphology, so that each sugar can be recognized by these crystals alone. Other substances, such as urea, uric acid, hippuric acid, creatinin, etc., which interfere with the ordinary clinical tests for sugar, do not affect this test.

To apply the phenylhydrazin test to the urine, take twenty-five cubic centimetres of urine in a small beaker, and add one gramme of phenylhydrazin and two grammes of sodium acetate. Heat over the water bath for from thirty minutes to an hour, and then cool by plunging the beaker in cold water. A yellow crystalline deposit is thrown down, which on examination by the microscope is found to consist of the yellow crystals of phenylglucosazine if this sugar is present.

An excess of phenylhydrazin must be present in order that the crystals may be formed. The experiments set forth in his paper seem to the author to justify the following conclusions: 1. Phenylhydrazin forms with the reducing sugars crystalline chemical compounds, each having an individual and definite morphology. 2. Albumin need not be removed. 3. It is possible to recognize any of the sugars by their crystalline forms alone, without recourse to their melting points. 4. Substances that interfere with Fehling's or Nylander's reagents do not interfere with this test, or form anything that would in any way be misleading. 5. The test is an extremely delicate one, and of undoubted accuracy.

Enteroptosis, or Glénard's Disease.—W. F. Hamilton (*Montreal Medical Journal*, September; *Medicine*, November) says that notwithstanding the conflicting views concerning the classification of cases under this head, it may be accepted as safe teaching, at least for the present, that enteroptosis may exist without subjective symptoms. The enteroptosis of Glénard is associated with the most pronounced subjective signs, chiefly of a neurasthenic type. In those cases where a pendulous abdomen is present, the nervous features are less pronounced than in thin subjects with flattened abdomen. Typical enteroptosis may result from inflammatory processes in the abdomen. Any of the abdominal organs may be displaced in this disease. Most frequently, however, the colon and small intestines, the stomach, the right kidney, and the liver are found in altered relations. The condition is due to an atony of the nervous system with a corresponding relaxation of the muscular structures of the body. Its predisposing causes are heredity, chronic disease, unhealthful methods of living, and the wearing of corsets. The disease is to be looked upon as a constitutional ailment.

The diagnosis of enteroptosis is comparatively easy. The epigastrium is hollow; the two lower quadrants of the abdomen, even with the patient in a reclining position, are often quite prominent. It is most important to determine the lesser curvature of the stomach and its relation to the greater curvature. Where the lesser curvature can be demonstrated, some degree of displacement exists; the amount of displacement is to be measured by the relation of the lesser curvature to the umbilicus. Palpation usually reveals movable kidney, and the liver when displaced is usually more prominent in the epigastrium and may be easily rotated on its long axis. In the diagnosis of this affection Glénard laid special stress on a test which was applied by the examiner standing behind the patient, also in the erect position, and laying both hands flatly over the lower zone of the abdomen. Then firm but gentle pressure is made upward. In the great majority of cases this affords considerable relief to the distressing pain which is felt in the epigastrium and which is one of the patient's chief complaints.

Dislocations and Fractures of the Astragalus.—Mr. Henry Gray Croly (*Dublin Journal of Medical Science,* October) says that on reviewing the cases which he has described as occurring in his own practice, of fractures and dislocations of the astragalus, and the cases which he has referred to recorded by surgical writers, he has come to the following conclusions, that: 1. The term "sub-astragaloid" is confusing and misleading. 2. In dislocation of the astragalus the bone is either *partially* or *completely* separated from its surrounding articulations, and if a wound exists, and any portion of the bone protrudes, it is compound. The direction in which the bone is displaced is specified by the terms forward, backward, outward, inward, etc. 3. In compound dislocation, with the head and neck protruding, the bone is so enucleated that its vascular supply is cut off, and, though reduction might be effected, necrosis is certain to follow, necessitating the excision of the bone later on, and meantime risking the patient's life by causing suppuration and septic trouble. 4. In compound fractures the sooner the bone is excised the better, the joint being drained. 5. In all simple partial luxations reduction should be attempted, and most probably success will be the reward of such praiseworthy efforts on the part of the surgeon. Tenotomy of the tendo Achillis or tibial tendons may in some cases be considered necessary. In the complete simple or double luxation, where the astragalus has left its box, *no efforts on the part of the surgeon will effect replacement of the bone,* and if its articular surfaces have undergone a change of position the bone must ultimately necrose. The author advises immediate excision in these "*Listerian*" days as safer than allowing the bone to slough out, which always happens except in cases of luxation backward, when it may be allowed to remain.

Mr. Turner says, in his experience in the majority of cases of dislocation of the astragalus there is an accompanying fracture of the bone. The bone may be fractured in the operation of extracting. Larrey and Boyer are in favor of extracting at once. It may be summarily stated in simple, direct, and complete luxation Turner advocates allowing the bone to remain in its new situation without any operation until it manifests a tendency to ulcerate the skin. To relieve tension an incision may be made over the dislocated bone, but its removal should be postponed. In complete compound luxation he advocates immediate removal. Boyer says after the astragalus is extracted the tibia is approximated to the os calcis. The movements of the foot are abolished, and the member loses a part of its length equal to the height of the astragalus. Boyer dissected a limb of a patient of Desault's, and found the tibia almost ankylosed with the calcaneum, but it does not follow that ankylosis should result. Mr. Smith (Leeds) says his patient in each case had an excellent hinge joint of the tibia on the os calcis. In incomplete luxations of the astragalus the hooklike process of the astragalus may get fixed in the groove of the os calcis. In dislocations backward, allowing the bone to remain in its new situation has been most satisfactory.

Acetanilide in Post-partum Pyrexia.—Major Peck, R. A. M. C. (*British Medical Journal,* October 14th), speaking to a paper presented to the British Medical Association on Fever following Delivery, said that coming from India, he had seen a good deal of pyrexia and had used a number of antipyretics. In certain cases, no doubt, the usual antipyretics were very badly borne, and might doubtless cause a dangerous degree of exhaustion and depression. In other cases, however, they diminished the danger and discomfort of high temperature, and placed the patient in a better condition to weather the storm. He remembered a case of his own that occurred in India a few years ago. The treatment was practically confined to the administration of acetanilide whenever the temperature reached 104° F. The case was a bad one, and the patient's condition remained critical for ten days. She experienced extreme discomfort and exhaustion whenever her temperature rose, and the administration of acetanilide reduced the temperature and enabled her to take nourishment and obtain rest until the poison had all been eliminated.

The Central Nervous System in Acute Malarial Infection.—At a recent meeting of the New York Neurological Society Dr. James Ewing (*Journal of Nervous and Mental Diseases,* November), after describing three cases, said that when the brain cortex was markedly brownish it indicated usually the presence of a large number of parasites, but this was not an invariable rule. The majority of cases of comatose malaria did not exhibit the massing of the parasites in the brain. Of eight cases in which he had examined the brain after death, in none was there a distinct brownish discoloration of the brain. Hæmorrhages had been found in some cases, as had also a moderate degree of œdema. Usually the parasites were uniformly distributed in the brain and cord, but a case had been reported in which they were localized in the medulla. The number of these parasites was often enormous, and complete occlusion of the vessels was not at all uncommon. While most of the fixed pigment was found in the endothelium, the parasites were rarely seen in the endothelial cells. It was probably safe to refer the cerebral symptoms observed in these severe cases of malarial infection to the general condition of the obstructed circulation. The ganglion cells, in cases of comatose malaria, had been studied, and the changes found to consist chiefly in the various degrees of chromatolysis. The dendrites were usually involved before the cell body. The ganglion cells appeared to suffer less than in the average case of typhoid fever. The mere presence of the parasites in the tissues seemed to exert no bad influence, except in a mechanical way. In one of the cases reported in the paper the deepening of the coma could be apparently connected with the progressive filling of the capillaries with the parasites and the formation of thrombi. In the other two cases the parasites were few and the pigment scanty. In both of these cases the malarial infection was exceedingly severe. These cases showed that the coma of malaria was not always referable to the presence of the cerebral parasites. Of the writer's sixty-four cases of malarial coma reported there were five simple tertian infections. In the æstivo-autumnal cases, with crescents only in the blood, there were thirty-four instances from the Montauk camp. Coma appeared to be rather frequent in cases showing only crescents in the blood. Crescents did not exhibit such a tendency to unequal distribution as did the fertile forms. From the condition of the viscera found in the second and third cases reported—and this variety occurred especially in cachectic individuals in whom the disease had existed for some weeks—it seemed probable that the coma was the result of the general and profound malarial infection. The writer did not believe that much importance should be attached at the present time to the condition of the ganglion cells in malaria. When the coma resulted from the massing of the young parasites in the brain, it was generally gradual in onset, and the prognosis was very unfavorable. In some cases the coma developed suddenly and was more amenable to appropriate treatment. The general clinical character of these cases indicated that an embolic process was concerned in their causation. Of eleven cases of the first class, reported by the writer, ten proved fatal. To summarize: The three anatomical conditions were: 1. The mechanical obstruction of the cerebral capillaries by large numbers of young parasites. 2. An embolic process causing an occlusion of some vessels (usually temporary) by parasites or pigmented leucocytes. 3. A general toxæmia, such as might occur in other infectious diseases, the blood showing few, if any, autumnal rings.

Artificial Serum-therapy in Toxic Dermatoses.—Dr. I. Callari (*Riforma medica*, August 22d) terminates a series of articles on this subject with the following conclusions:

1. The autotoxic and toxic theory of the genesis of certain dermatoses (psoriasis, eczema, prurigo and pruritus, lichen planus and lichen scrofulosorum, ichthyosis, pemphigus, etc.) is the most rational. 2. The method of lavage of the organism with artificial serum in the sudoriferous dermatoses is a method sufficiently attested to remove it from the category of merely Utopian ideas. 3. Its efficacy in general can not be doubted, seeing that lavage (*a*) raises the blood pressure; (*b*) by flooding the blood dilutes the circulating toxines; (*c*) excites the eliminating functions; (*d*) modifies probably all the altered tissue elements; (*e*) by exciting the functional activity of hæmatopoietic organs probably augments their phagocytic powers; (*f*) by augmenting the number of red blood-corpuscles and the hæmoglobinic mass influences the general nutrition, determining an increase in the body weight. 4. The method of lavage is still susceptible of modification by varying the nature and quantity of the principal chemical elements entering into the constitution of the fluid —looking to data to be furnished when urology, hæmatology, histobiochemistry, etc., shall have thrown some light on the complex problem of self-intoxication.

The Therapeutic Uses of Epsom Salts.—Dr. J. C. Culbertson (*Journal of the American Medical Association*, November 18th) says that notwithstanding all that has been written and stated so favorably as to the use of this potent remedy, he is inclined to believe that it is not yet fully appreciated for its many virtues. It may seem strange and even presumptuous to say this, in view of all that has been said, and in the face of the fact that sulphate of magnesium has become a universal domestic remedy. However, as used by the people, it is only as a simple, safe purgative that it finds place in everyday family use. In this rank it holds precedence always. As a purgative, its most common administration is in the morning, and in a dose of from half an ounce to an ounce. This may be greatly improved upon by giving from half a drachm to a drachm, administered in a pint of water. The mechanical effects of the water are beneficial and aid in establishing increased peristaltic action of the bowels. The remedy, when given in this manner, is peculiarly cooling and refrigerant. The same dose given at bedtime rarely acts even as a laxative, but becomes a most excellent diuretic, and also stimulates the skin so as to literally rid the body of accumulations of detritus, wherever they may be located. This is a property possessed in a high degree by sulphate of magnesium. In fact, it may be placed at the very head of the column of diuretics, as certain, safe, and mild in action.

For a cure of dysentery it comes nearer to being a specific than any other remedy at our command. In giving it in this disease from a drachm to an ounce may be used. If large doses are given the discharges are apt to be stopped too abruptly; a drachm is better than an ounce and may be repeated every hour or two.

For the relief and cure of sick headache it should be given in doses of from half a drachm to a drachm every morning, dissolved in a goblet of water. Equally good results or even better may be obtained by administering it at bedtime. The goblet or pint of water should be insisted on with every dose. The temperature of the water may be that which is most agreeable to the patient, although Dr. Culbertson thinks warm water, say 100° F., more potent than that at a lower temperature.

In cases of hæmorrhoids and all congested conditions of the rectum and other pelvic organs, sulphate of magnesium is almost a specific in a large number of instances; where the patient is troubled with flatulence, the addition of peppermint to the salt solution is very effective in affording relief.

In gynæcological cases, and particularly in peritonitis, sulphate of magnesium is again found at the top of the column of useful remedies. As a cholagogue it is also in the front rank.

A Case of Congenital Impotence.—Belköwsky (*Allgemeine Zeitschrift für Psychiatrie; Indian Medical Record*, October 25th) describes the case of a man who, although married for four years, had never been able to perform the sexual act. In spite of the fact that his genitals were normal in development and his general bodily condition was excellent, he was totally devoid of sexual sensations, had never in his life had erections, and only quite lately had he had some nocturnal emissions, accompanied, however, by only imperfect erections. He was totally indifferent to the female sex, but no trace of sexual perversion could be observed.

The Influence of Food on the Age at which Babies begin to Walk.—Chaumier (*Klinisch-therapeutische Wochenschrift; Indian Medical Record*, October 25th) has investigated 1,220 cases. At the age of ten months only 5.6 per cent. of bottle-fed babies could walk, whereas 12.7 per cent. of breast-fed babies could. At eleven months 12.3 per cent. of bottle-fed but 21 per cent. of breast-fed babies walked. At twelve months 22 per cent. of the bottle-fed and 40 per cent. of the breast-fed babies walked. At the age of two years the figures are 91.7 per cent. of hand-fed and 97.8 per cent. of breast-fed babies.

"An Undoubted Case of Superfœtation." — The *Medical Review of Reviews* for October 25th quotes, under the foregoing heading, the following case:

Herz (*Wiener medicinische Presse*, 1899, No. 36) describes the case of a woman, aged twenty-two years, married for the past year. Menstruated several times after marriage, but amount scanty. Menses ceased at fifth month after marriage.

The time of the first menstruation after marriage was in mid-December, 1897; on September 21, 1898, the patient bore a healthy, fully developed child. In delivering the placenta the midwife's hand encountered an object within the uterus which she believed to be a second fœtus. Nothing further was expelled, however, and the patient made the usual recovery. Upon getting up, the presence of a uterine tumor was readily made out.

Six weeks after the birth of the first child the mother again felt life; in fact, none of her people appeared to have any doubt that a second fœtus was in the womb. The health, which had unmistakably failed at the time of the actual cessation of the menses, had become strikingly worse after the birth of the first child. Herz first saw the patient on January 18, 1899 (four months after the birth of the child), diagnosticated superfœtation, and proceeded expectantly. The patient, however, became worse, and died on February 10th, in the ninth month of the pregnancy. Her people made no attempt to send for medical aid, on superstitious grounds, although emptying the uterus might have saved the mother. Death occurred from suffocation. The most severe symptoms during life had been œdema of legs, dyspnœa, and refusal of nourishment.

BOOKS, ETC., RECEIVED.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. By Leading Authorities of Europe and America. Edited by Thomas L. Stedman, M. D. In Twenty Volumes. Volume XVIII. Syphilis and Leprosy. New York: William Wood & Co., 1899. Pp. v–3 to 703.

Annual and Analytical Cyclopædia of Practical Medicine. By Charles E. de M. Sajous, M. D., and One Hundred Associate Editors. Assisted by Corresponding Editors, Collaborators, and Correspondents. Illustrated with Chromolithographs, Engravings, and Maps. Volume IV. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1899. Pp. vii–622.

The Surgical Diseases of the Genito-urinary Tract. Venereal and Sexual Diseases. A Text-book for Students and Practitioners. By G. Frank Lydston, M. D., Professor of Surgical Diseases of the Genito-urinary Organs and Syphilology in the Medical Department of the State University of Illinois (The Chicago College of Physicians and Surgeons), etc. Illustrated with Two Hundred and Thirty-five Engravings. Philadelphia, New York, and Chicago: The F. A. Davis Company, 1899. Pp. xiv–1011. [Price, $5.]

Treatise on Orthopædic Surgery. By Edward H. Bradford, M. D., Surgeon to the Children's Hospital and to the Samaritan Hospital, etc., and Robert W. Lovett, M. D., Assistant Surgeon to the Children's Hospital, etc. Illustrated with Six Hundred and Twenty-one Engravings. Second Revised Edition. New York: William Wood & Co., 1899. Pp. vi–655.

Bacteriology in Medicine and Surgery. A Practical Manual for Physicians, Health Officers, and Students. By William Hallock Park, M. D., Associate Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College, etc. Assisted by A. R. Guerard, M. D., Assistant Bacteriologist, Department of Health, City of New York. Illustrated with Eighty-seven Engravings and Two Colored Plates. New York and Philadelphia: Lea Brothers & Co., 1899. Pp. xi–18 to 693. [Price, $3.]

Transactions of the American Orthopædic Association. Thirteenth Session, held in New York, on May 31 and June 1 and 2, 1899. Volume XII.

Cystoid Disease of the Testicle: Teratoma Testis? By F. R. Sturgis, M. D. [Reprinted from the *American Medical Quarterly*.]

Sinus Thrombosis: Cure without Opening the Sinus. By Robert Levy, M. D., of Denver. [Reprinted from the *Laryngoscope*.]

Prognosis of Laryngeal Tuberculosis. By Robert Levy, M. D. [Reprinted from the *Journal of the American Medical Association*.]

A Contribution to the Ætiology of Pompholyx. By Martin F. Engman, M. D., of St. Louis. [Reprinted from the *Medical Review*.]

The Use of Thermol in Typhoid Fever. By George B. Miller, M. D., of Philadelphia. [Reprinted from the *Philadelphia Medical Journal*.]

The Treatment of Favus of the Nail. By Frederick J. Leviseur, M. D. [Reprinted from the *International Clinics*.]

Traction Plasters for Temporarily Contracting an Affected Lung, in Lieu of the Murphy Operation. By Charles Denison, M. D., of Denver.

The Milk Supply of Cities: Can it be Improved? By Henry O. Marcy, M. D., of Boston. [Reprinted from the *Journal of the American Medical Association*.]

The Reconstruction of the Pelvic Structures Incident to Lesions of the Perinæum. By Henry O. Marcy, M. D. [Reprinted from the *Journal of the American Medical Association*.]

Seventeenth Annual Report of the Harlem Eye, Ear, and Throat Infirmary, of the City of New York. January, 1898, to September 30, 1899.

New Inventions, etc.

A NEW PEDICLE NEEDLE.

By L. B. Owens, M. D,
COLUMBIA, S. C.

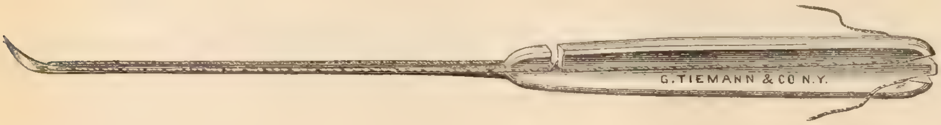
In the operation for the removal of tumors, ovaries, uterus, etc., when the parts are to be tied in sections by the use of a needle threaded with a double ligature, I have often felt the need of one different from any other needle used for that purpose. The cut below illustrates a needle recently made under my direction by Messrs. George Tiemann & Co., which I think will be of great assistance to all surgeons. In abdominal surgery the rate of mortality is greatly influenced (as all surgeons know) by the two following factors:

1. Time consumed in the operation, as the longer the operation the more liable the patient to shock, with the stomach more irritable, the blood more deoxidized, the greater depressing effects of the anæsthetic, and the wound longer exposed.

2. The way in which the surgeon guards against hæmorrhage.

By the use of this needle several minutes can be saved, and the vessels can be secured with more certainty.

The difference between this needle and those in general use is that in this one the ligature is doubly crossed before the pedicle is transfixed, and in the other afterward. When this needle is threaded properly, the pedicle can be transfixed, the suture clipped near the eye, and each section ligated in a few seconds; while with the other the ligatures are crossed *after* they are clipped, and one must pull and saw at them for several minutes to see if they are crossed, and it is never certain that they are, and if they are not they are almost sure to slip, and the patient to die from hæmorrhage. The needle is threaded in the same manner as any other; then one end of the ligature is drawn into the pointed excavation in the end of the handle, the other end is carried under and over the suture on the opposite side, and brought back to the original side and drawn taut into the other wedge-shaped notch. The notch near the shoulder of the needle is designed as a receptacle to keep the sutures when they are locked, so that they may be parallel along the shaft of the needle.



Miscellany.

The Evolution of "Ketchup."—We quote the following from the *Cleveland Journal of Medicine* for November:

"'One of the trials of our younger days was to spell the name of the sauce that was and still is pronounced "ketchup." Such as had mastered "c-a-t-s-u-p" were on the top shelf of culture. From catsup we filtered down to katsup, then to catchup, and finally to ketchup. A man over in New Jersey made a million dollars at bottling tomatoes, and married his daughter to a real prince. Now comes a man up in the interior of the Empire State of New York who offers "grape catchup" as the finest modern relish. It is made from "selected Catawba grapes," and beats the old-fashioned home-made tomato catsup to death.'

"The real fact in regard to the good old word ketchup is quite the reverse of the idea given above. It is one of those instances of overrefinement introduced by people who are a little too sensitive for plain English. As a matter of fact, the East Indian word kitjap was changed to ketchup. It was evidently revolting to people of culture to say ketch instead of catch, and the word was changed to catchup. It was then obvious that there was nothing to be caught about it, and that it must be derived from catsup, the association of ideas possibly coming from the resemblance in color to a tortoise-shell cat. Thus was the 'kit' evolved into a 'cat' along purely linguistic lines."

A Prototype of Christian Science.—Dr. Buchanan (*St. Louis Courier of Medicine*, October), in an interesting article on the Medical Customs of the Snohomish Indians, says:

"One peculiar belief, idea, or custom was the occasional treatment of a disease by personification and addressing it as though it was an actual living and sentient being. Nevertheless, this idea does not seem so irrational when we consider that many diseases were supposed to be due to the presence or influence of malign spirits. Of course, it would be little else than natural then to address the spirit or spirits present or causing the disease. I can remember once coming upon an old Indian in the woods. I was unseen and unheard. The poor old fellow not only had a severe attack of acute bronchitis, but had also been partially deaf for years. Between the exacerbations of coughing I heard him deliver a spirited address to his sickness as follows:

"'Oh, yes; you think you are going to kill me, but you are not! Why don't you kill me and be done with it, if you think you can do it? But you know you can't do it, that's why you do not do it. I know you and how you go about like this. Kill me and let me alone; I don't care at all' (with affected nonchalance)! 'You know you can not do it, and you know well enough that I am not afraid of you. So just kill me and be done with it, or else get out, one or the other, and right quick too!'"

The Treatment of Corns.—Dr. George D. Monro (*Cincinnati Lancet-Clinic*), in a humorous letter dated November 11th, describes his visit, when suffering from corns, to a lady whose office bore the following sign:

Mrs. ——, Sherpodgist.
Corns Erased.
Bungyans Eraducated.
Finger and To Nales Manchured.

Dr. Monro says:

"I told the lady 'sherpodgist' I was a sufferer from corns, and I saw by her sign she erased them; that I would like to have mine erased. I took off my stocking. She took my foot in her lap and said: 'Yes, I see three gems in the little planx, and they require depletion.' I told her I did not look upon them as very precious gems (germs, I presume she meant); she was welcome to them if she would only remove them. She soaked the corns with peroxide of hydrogen and very dextrously removed them. She then applied boric acid and acetanilide mixed. She ordered me to keep cotton saturated with peroxide of hydrogen on them as much as I could. I have been very comfortable ever since. I asked her what a corn was, anyway. Her reply was: 'It is hot blood pressing against the cutrix.' I thought that was probably as good a definition as any."

There is a great deal that is worthy of being taken to heart in Dr. Monro's comment:

"But, joking aside, I believe it is necessary for a physician to know something about the treatment of corns. In this age of fashionable shoes I think this knowledge is required. Such treatment should not be allowed to drift into the hands of ignorant 'sherpodgists.' No disease is more common than corns, and no disease is capable of producing more universal discomfort than corns. Ask a physician, however, what to do for corns, and he will recommend some placebo, and laugh about the wearing of tight shoes."

The Perniciousness of Hasty Generalization.—In commenting on Dr. Granville Bantock's presidential address in the Section of Obstetrics and Gynæcology at the British Medical Association's meeting, the *Medical Review of Reviews* for October has the following excellent remarks:

"In concluding his remarks, Dr. Bantock urged that medical writers should display more moderation and discretion in publishing alleged results of their investigations. It has latterly become the custom of a considerable majority of the vast army of writers who fill the pages of medical journals with immature and unproved deductions, to promulgate opinions and put forward conclusions based upon insufficient evidence. Thus, an operator decides that he will sew up his abdominal wounds in a particular manner, and he forthwith announces to the world that he has banished ventral hernia after abdominal section. He does not wait ten years, he does not even wait five years to see the results and ascertain the permanence or otherwise of his method. It is the indiscriminate and useless notices of such crude and unproved views that unhappily crowd the pages of most medical journals, and render reference and search for facts of definite practical value to the practitioner so difficult. The output of medical literature has become something enormous, and it is continually increasing. We heartily wish that medical writers would bear in mind the adage that 'it is never safe to prophesy until one knows.'"

The Results of the Malaria Expedition to West Africa.—A correspondent to the *Lancet*, in its issue for October 14th, says that the experience of the expedition at Wilberforce has been exceedingly instructive and affords very strong evidence of the truth of the mosquito theory. Here but one genus of mosquito—anopheles—and but one species of that genus, lodged in the barracks of the regiment. Of over a hundred of these mosquitoes caught at various times during the period of seven weeks, twenty-six per cent. proved to be infected, some showing a few zygotes only, others many and containing numerous "germinal rods" or "zygotoblasts" in their salivary glands. Simultaneously fresh cases of fever came daily to hospital, with tertian, quartan, or æstivo-autumnal parasites in the blood of the patients. Further, mosquitoes allowed to feed on these patients proved on dissection two or three days later to be infected. Thus the complete history was easy to trace at Wilberforce and proved a good guide for work in other districts.

It may be mentioned that the bodies discovered by Ross and described by other authors and usually called "black spores" were never met with in any of the numerous mosquitoes found here. This tends to disprove their connection with malaria. It is a very common idea that mangrove swamps are good breeding grounds for mosquitoes and that they also play a prominent part in the production of malaria. During the search at Wilberforce for breeding places, in order to test every possibility, two swamps in the neighborhood were explored. One is an ordinary swampy tract forming a kind of terrace halfway down the hill on which Wilberforce stands, the other is a mangrove swamp at the base of the hill. In neither could any spot likely to form a breeding place for anopheles be found.

The whole experience of the expedition at Sierra Leone tends to prove very strikingly that mosquitoes of the genus anopheles can not travel far. The whole of Freetown has been explored for anopheles larvæ puddles and their positions have been carefully indicated in a plan of the town. The distribution of these puddles is limited very strictly to the immediate vicinity of human habitations. In no place has a puddle containing larvæ been found more than forty yards from a native hut.

Similarly, again, the distribution of the mosquitoes themselves. Tower Hill barracks, where the First West India regiment is stationed, is an admirable example. The hill is about two hundred and fifty feet high; a ring about half a mile wide immediately around the barracks is clear of native huts. Just beyond that distance puddles containing the larvæ of anopheles have been discovered; on two sides, in the parts known as Soldier Town and Bambare Town, they were particularly numerous. But, although several times the whole of the barracks were searched, never was anopheles discovered. Mosquitoes of the genus culex were common—disused tubs, mortars, and other vessels in the immediate vicinity of the barracks were their breeding places. Cases of fever did occur among the men at these barracks, but, compared to the number at Wilberforce, they were very few, mostly relapse cases; while from "first-attack" cases it was easy to get the history that a week or fortnight previously the patients had slept in a native hut in the town.

The puddles containing anopheles larvæ may be described as follows: 1. Rock puddles occurring in shallow hollows on the surface of the bare hard rock. These are often only from a few inches to one or two feet across and many of the smaller ones swarm with larvæ. 2. Street-side puddles. These occur in the course of the rough, irregular ditches at the sides of the streets, which serve very badly as surface drains. In heavy rain they are flooded; afterward there is only a small stream expanding irregularly into puddles, generally containing a green alga and swarming with larvæ. Later, all but the puddles, and in very dry weather even these, dry up. 3. Street puddles: pieces of water of various sizes up to several yards in length, very shallow, and simply collections in the lowest parts of badly made roads.

The members of the expedition suggest that these could be dealt with by the following means, and are of opinion that if the suggestions were carefully carried out in all parts of the town mosquitoes of the genus anopheles would be practically extirpated in the district. 1. Surface drainage. This would involve the construction of open drains with a good fall at the sides of many of the less important streets, as has already been done in the principal ones, and the construction of even road surfaces by leveling up with soil, etc. This method, to a poor colony, such as Sierra Leone, might prove an expensive one, hence two others have been suggested. 2. Treating the puddles regularly with such a reagent as kerosene to kill the larvæ. 3. Sweeping out the puddles where possible.

It is evident that the two latter methods would have to be regularly employed twice or three times a week for a long period, perhaps twelve months, by intelligent "scavengers" instructed how to identify the larvæ of anopheles. Experiments have been made here with kerosene sprinkled over puddles, with the effect that the larvæ were all killed after a few hours. The kerosene film must completely cover the surface and must be renewed, of course, after a shower of rain. These two methods are now being employed at Freetown, but only the method of surface drainage can be expected to yield satisfactory permanent results.

So far as can at present be made out, three species of anopheles have been met with—but of one, however, only a single specimen has been captured—a large, black-bodied mosquito with grayish wings. Of the other two it is impossible, without a more careful dipterological examination, to decide whether one is anything more than a smaller variety of the same species, but they appear alike in every point except size, one being almost twice the size of the other. They have in common a brown body; the costal margins of their wings are studded with black patches, while along the course of the veins of the wings are scattered small pigmented spots of brown color. The larvæ of anopheles are smaller than those of culex, have no breathing tubes, and their tapering bodies are provided along their whole length with a number of fine bristles, by which they are prevented, by becoming entangled among the algous threads generally found in the puddles in which they live, from being washed away by heavy rains. The larvæ vary in color from a pale to a reddish brown, and often have during the first two or three days of their development a white streak just in front of the prothorax; later this disappears. Full grown they are about three eighths of an inch long. The pupal stage is very short (from twenty-four to forty-eight hours) under natural conditions and the pupæ are considerably smaller than those of culex.

The Extermination of Rats in Plague Districts.—According to the *Boston Medical and Surgical Journal* for November 30th, it is alleged that in Algiers, where a case of plague had been reported, and where certain other cases of a suspicious character had occurred, the authorities sealed all the sewers hermetically and then burned chemical products, the fumes of which destroyed all the rats. This, says the *Journal*, is a step which might be followed with advantage by all municipalities threatened by plague.

The Lawrence Hospital, Columbus, Ohio.—We learn from the *Ohio State Journal* that a hospital for women has been incorporated to be established in Columbus, and that it is to be called the Lawrence Hospital, in honor of Dr. F. F. Lawrence, to whose efforts the institution will be largely indebted for its existence.

Automobiles for Physicians.—According to the *Medical News* for November 25th, an English medical man has traveled in his automobile five thousand miles in a year at a total working expense of one hundred and thirty dollars.

The Physiological Fitness and Use of Egg Membrane for Skin Grafting.—Dr. Louis Heitzmann makes the following abstract of and comments on the investigations into this subject of Professor Max Schüller in Berlin, as recorded by him in two papers—viz.: 1. Epithelia on the Inner Surface of the Shell Membrane of Chicken's Egg (*Anatomischer Anzeiger*, vol. xvi, 1899); 2. The Shell Membrane of the Chicken's Egg an Epithelial Membrane and its Application in Skin Grafting of Granulating Surfaces (*Monatsschrift für Unfallheilkunde*, No. 9, September, 1899).

Dr. Heitzmann says that Schüller had repeatedly observed rapid new formation of skin upon granulating surfaces after application of the inner surface of the shell membrane of a fresh chicken's egg. Believing that epithelial elements must be present in the shell membrane, he has examined it microscopically, and has succeeded in demonstrating broad epithelium, mostly with large nuclei upon its inner surface, or rather between it and the albumen. Though the epithelium can occasionally be seen in the fresh specimen upon examination with immersion lenses in water or glycerin, it becomes more distinct in colored specimens, the coloring matters used being alum hæmatoxylin and Bismarck brown, as well as other aniline colors and carmine. The coloring requires great care, lest the epithelium should be destroyed. In good specimens the large round or oval nuclei (or two smaller nuclei) have a darker color than the cell protoplasm, which appears pale, granular, lightly colored, the contours round, polyedral, or angular. At times, however, the nuclei are lighter than the protoplasm. The epithelial cells do not seem to be evenly distributed over the entire surface, but are usually found singly or in smaller groups, and only occasionally in larger masses. Pressure of the cover glass may be sufficient to destroy them, and too much care can not be given to decolorizing as well as to the general preparation of the specimens. In transverse sections the presence and relation of the epithelium to the shell membrane can be well studied. The membrane, carefully freed from the shell, is placed in alcohol, imbedded in celloidin, and hardened. The specimens are partly colored before removal from the shell, partly after being cut with the microtome, and the coloring matter used is either Bismarck brown or alum hæmatoxylin. The sections are examined either in glycerin, oil of lavender, bergamot oil, or in xylol balsam. In such sections the epithelial cells are mostly spindle-shaped and disposed in a single layer. In the boiled egg they are found with greater difficulty. Seven illustrations are added to Schüller's paper and plainly show the epithelia.

In the second work Schüller describes a number of cases in which he has been able to produce new formation of skin by application of the shell membrane. After pricking the shell of a fresh chicken's egg and allowing the yolk and albumen to flow out, the shell membrane is removed from the shell in as large pieces as possible without touching or tearing the inner surface, and the latter is at once placed in contact with the granulating surface, previously cleaned and dried; it is kept in place by means of a bandage of sterilized gauze and absorbent cotton. Neither antiseptic lotions nor powders are to be employed, since they may easily injure the young epithelia, though they must have been used previously, to thoroughly prepare the wound. The bandage is usually changed after four days, and then the shell membrane can, as a rule, be easily lifted up. Below it a white or bluish-white epithelial layer can then be noticed. Smaller granulating surfaces may be entirely covered with epithelia by this time. Such an epithelial covering is permanent, and there can be no doubt that the shell membrane itself produces the epithelium, and does not merely cause a rapid production of epithelium from the surrounding portions of the skin. A characteristic case is the following: A little girl of ten months was brought for treatment on account of an extensive scalding of the left upper arm, the elbow, and the forearm, which had taken place two weeks previously. The skin was necrotic to a great degree. After treatment with sublimate bandages and later with nitrate-of-silver salve, two granulating surfaces remained, one on the upper arm, about seven centimetres long, the other somewhat smaller in the upper third of the forearm. Four days after application of the inner surface of the shell membrane, new epithelial formations, about the size of a cherry, were noticed beneath the shell membrane, and the subsequent new formation of skin took place very rapidly. The entire healing process was excellent, and there was no contraction from the scar. The author has been able to make similar observations continually, and in one case a new epithelial formation could be observed after twenty-four hours.

Report of the Committee on the Ætiology of Yellow Fever.—According to the *Boston Medical and Surgical Journal* for November 30th, the commission, consisting of Dr. E. Wasdin and Dr. H. D. Godding, sent by the United States government to Havana to inquire into the ætiology of yellow fever, has arrived at the following conclusions:

"1. The micro-organism discovered by Sanarelli, and by him named the *Bacillus icteroides*, is the cause of yellow fever. 2. Yellow fever is naturally infectious to certain animals; in some rodents local infection is very quickly followed by blood infection, and, while in dogs and rabbits there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man. 3. Infection takes place by way of the respiratory tract, the primary colonization in this tract giving rise to the early manifestations of the disease. 4. In many cases of the disease, probably the majority, a primary infection or colonization in the lungs is followed by a secondary infection, or a second colonization of this organism in the blood of the patient. This secondary infection may be complicated by the coinstantaneous passage of other organisms into the blood, or this complication may arise during the last hours of life. 5. There is no evidence to support the theory advanced by Professor Sanarelli that this disease is primarily a septicæmia, inasmuch as cases do occur in which the *Bacillus icteroides* can not be found in the blood or organs in which it might be deposited therefrom. 6. There exists no causal relationship between the bacillus X of Sternberg and this highly infectious disease, and the bacillus X is frequently found in the intestinal contents of normal animals and of man, as well as in the bronchial secretion. 7. So far as the commission is aware, the *Bacillus icteroides* is never found in any body other than one infected with yellow fever, and whatever may be the cultural similarities between it and other micro-organisms, it is characterized by a specificity which is distinctive. 8. The *Bacillus icteroides* is very susceptible to the influences injurious to bacterial life, and that it is readily controlled by the processes of disinfection, chemical and mechanical, is assured. 9. The *Bacillus icteroides* produces *in vitro* as well as *in vita* a toxine of the most marked potency, and from our present knowledge there exists a reasonable possibility of the ultimate production of an antiserum more potent than that of Professor Sanarelli. As there is such a wide divergence of opinion with reference to the *Bacillus icteroides* in its relation to yellow fever, the committee believes the organization of an able and full commission of bacteriologists, fully equipped and provided with ample means, should be effected, which shall be permanently located in one of the yellow-fever infected cities. Sufficient remuneration should be provided, so that the highest talent in bacteriology may be engaged."

Celtic Medicine, its History and Lessons.—This was one of the headings of an address delivered in the Mater Misericordiæ Hospital, Dublin, on October 23d, by Thomas More Madden, to whom we are indebted for advance proof sheets of the address. Dr. Madden said:

In this connection I may for a moment refer to the too generally forgotten fact that Irish medical men can lay claim not only to the traditions they inherit from their more immediate predecessors, but also to a history deserving of larger consideration than is now commonly given to it. For, as I have elsewhere shown, the practitioners of the healing art in this country are, in truth, the legitimate heirs of the oldest professional culture of which there are in existence the records in the living language of any European nation. Let me, therefore, remind you that in distant ages, when the lamp of medical knowledge was unkindled in most other countries, its light shone with comparative brilliancy in this remote *Ultima Thule*, as may be easily proved by incontrovertible historical evidence. Thus, for instance, there are still extant and accessible in the libraries of the Royal Irish Academy and Trinity College in this city, as well as in other similar collections elsewhere, a vast body of ancient Gaelic MS. documents in many of which the distinguished history and high character of early Irish medicine are well illustrated.

From these sources we find that from the oldest period of authentic history the classic literature of Greek and Roman medicine was cultivated, therapeutics, materia medica, and anatomy were studied, and surgery, gynæcology, and obstetrics were practised in Ireland, where the practitioners of the healing art were then held in high honor. Nay, more, we have clear evidence, which I have elsewhere sufficiently adduced, to show that the alleged marvels of modern hypnotism and the employment of anæsthetics, on which we plume ourselves as the most beneficent discovery of the present age, were, although in cruder forms, here anticipated by our remote predecessors.

Among the numerous collegiate centres of professional as well as of ecclesiastical learning with which this *insula sanctorum et doctorum* was studded between the sixth and sixteenth centuries, and the very ruins of many of which, such as Clonmacnois, Cashel, Meelick, Portumna, and Monasterboise, still attest the culture and art as well as the piety of their founders, one, at least, is of special interest to us as of a distinctly medical origin and character—viz.: *Tuaim Drecain*, near the present town of Belturbet. This college, as Dr. Healy, bishop of Clonfert, has shown, was established by a medical practitioner of no little eminence, Saint Brecin, whose chirurgical skill, more especially in cerebral surgery, is celebrated in our oldest annals.

All the various faculties of these Celtic Catholic universities, for such was the character of many of them, were for long ages crowded with students from every part of Europe, who in some of them were subjected to a course extending over a period far more protracted than even that of the modern medical student. From these institutions also were sent forth men such as Alcuin, the founder of the University of Pisa, Johannes Scotus Erigena, the first professor of philosophy in Oxford, and countless others to diffuse the lights of learning and science as well as of faith to the ends of the earth.

Nor did that long intellectual preeminence cease, in medicine at least, until after the destruction of the Irish monastic universities during the reigns of Henry VIII and Elizabeth, and down to the early part of the seventeenth century we find the far-extending fame of Irish medicine referred to by authorities of such eminence as Van Helmont.

From the destruction of those Celtic universities may, moreover, be dated the origin of the disabilities in the matter of higher education that for three centuries have pressed and still press heavily on the majority of the Irish people, and on none more forcibly than on those of them belonging, as so many here do, to the medical profession.

The latter, during all these generations, have been thus unfairly handicapped in the race of existence by the impossibility of securing, in accordance with their conscientious convictions, that full measure of academic training within the halls of a university which is so conducive to success in the higher walks of professional life or public employment, and which is accessible to their compeers of every other persuasion.

We may, however, rest well assured that in this, as in all other matters, justice, although long delayed, must, like that truth on which it is founded, eventually prevail. And therefore can we confidently expect that this last vestige of the dark shadows cast o'er our land by the successful intolerance of a bygone age may forever be swept away in the near daydawn of the twentieth century, which we trust will usher in the final and equable settlement of the Irish university question.

Whether in our day this long-cherished hope is realized or not, will, however, we are equally confident, in no wise affect your kindly relations and zealous cooperation in the mission of medicine with your brother practitioners of all other schools and denominations. Nor need we attempt to stimulate your esteem and respect for men among whose professional ancestors were included names such as those of Cusack, Carmichael, Graves, or Stokes, which at home and abroad are as imperishably engraved on the annals of our science as those of our Catholic compeers, Corrigan, Lyons, or Hayden, or who, like the Anglican founder of Sir Patrick Dunn's Hospital, or Bartholomew Moss, to whom Ireland owes her great school of midwifery, the Rotunda, have left in our city enduring monuments of a medical benevolence as far above all sectarian considerations as that of the founders of the four Catholic hospitals which are so largely supported by Irish charity in Dublin.

The New York Academy of Medicine.—At the last stated meeting, on Thursday evening, the 7th inst., Dr. Frederick A. Packard, of Philadelphia, delivered the Wesley M. Carpenter lecture, entitled Researches on Infection by the Tonsils.

At the next meeting of the Section in Surgery, on Monday evening, the 11th inst., the following cases will be presented: Prostatectomy, by Dr. Alexander B. Johnson; prostatectomy in a patient seventy-one years old, by Dr. Forbes Hawkes; the result of removal of floating cartilage from the knee joint, by Dr. B. F. Curtis; hip-joint amputation, by Dr. William B. Coley; and abscess of the liver, by Dr. Ramon Guitéras. Dr. Willy Meyer will exhibit Nitze and Casper's operating cystoscope and Bottini's prostatic cauterizator improved by Freudenberg. Dr. John F. Erdmann will present a foreign body in the knee joint formed by a piece chipped from the cartilage.

At the next meeting of the Section in Genito-urinary Surgery, on Tuesday evening, the 12th inst., cases will be reported, patients will be presented, and specimens and new instruments will be exhibited.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 14th inst., a discussion on the Mortality and Treatment of Acute Intussusception will be opened by Dr. Frederick Kammerer and continued by Dr. Robert Abbe, Dr. Frank Hartley, Dr. F. H. Wiggin, Dr. Willy Meyer, Dr. A. Jacobi, Dr. Francis Huber, and Dr. John Dorning. Cases will be presented and new instruments will be exhibited.

At the next meeting of the Section in Orthopædic Surgery, on Friday evening, the 15th inst., Dr. Newton M. Shaffer will read a paper entitled The Convalescent Stage of Hip-joint Disease, with Special Reference to the Question of the Abolition of Protection to the Articulation.

Delicacies for the Sick.—The New York Exchange for Women's Work calls attention to its domestic department, which will furnish all kinds of home-made delicacies for the sick at short notice. This exchange is a charitable institution designed to help refined women in reduced circumstances, and is supported by voluntary contributions. Not only are orders sent to it well filled, but physicians who patronize the exchange will be assisting one of our most worthy charities. The exchange is at No. 334 Madison Avenue, corner of Forty-third Street. The telephone number is 1226–Thirty-eighth Street.

St. Vincent's Hospital.—Dr. José M. Ferrer and Dr. Charles H. Lewis have been appointed visiting physicians to the hospital.

The Mariani Wine of Coca.—In a recent communication M. Mariani, of Paris—whose researches into the medicinal properties of coca leaves and the pharmaceutical processes most suitable for preserving those properties unimpaired extend back nearly fifty years—speaks feelingly of the imputations which have been cast upon coca itself on account of the occasional sad results of the use of the alkaloid cocaine, and no less pointedly of the reproach to which his preparation, vin Mariani à la coca du Pérou, has sometimes been subjected because of the unsatisfactory results obtained with one or another of the many wines of coca that have been placed on the market. M. Mariani lays stress on the care taken in his large establishment in the preparation of his product and on the wholesome character of the wine used. He insists anew on the necessity of blending in due proportions the leaves of several varieties of the coca plant in order to bring out their most desirable tonic and sustaining action, and says that a mere vinous solution of cocaine, alone or in various artificial combinations, such as many of the so-called wines of coca unquestionably are, is in no wise capable of giving the results that physicians expect when they prescribe the vin Mariani as an adjuvant. He points out that the market of such preparations is short-lived, and maintains that that fact in itself fully proves his contention, which, moreover, is sustained by letters that he has received from more than eight thousand physicians.

THE NEW YORK MEDICAL JOURNAL, DECEMBER 16, 1899.

Original Communications.

MICROCOCCUS INTERTRIGINIS ROSSBACH.

BY MAX MEYER, M. D., PH. D.

THE ætiology of certain diseases of the skin has been demonstrated to be bacterial, and to-day I can add the *Micrococcus intertriginis Rossbach* as the producer of erythema intertrigo.

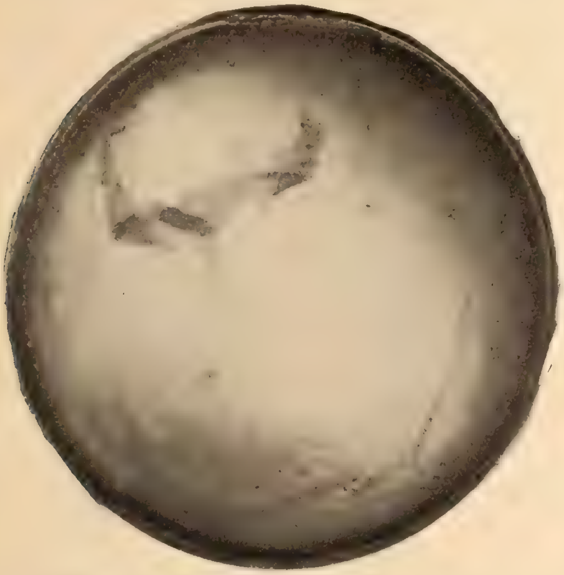


FIG. 1.—*Micrococcus intertriginis Rossbach.* Petri dish, gelatin, one day old. Natural size.

Only after long and exhaustive researches was I successful in isolating a micro-organism which proves beyond doubt to be the cause of the disease.

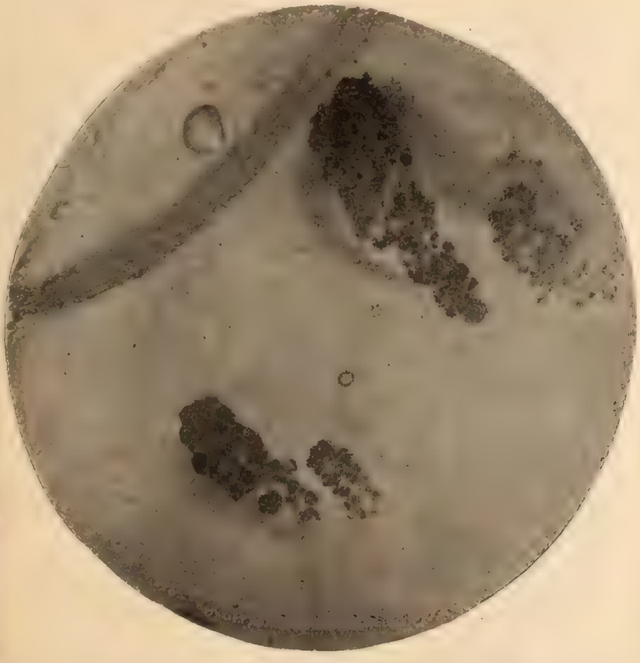


FIG. 2.—*Micrococcus intertriginis Rossbach.* Petri dish, gelatin, three days old. × 10 diameters.

Ætiology.—Erythema intertrigo is generally found between the folds of the skin. Uncleanliness, irritable epidermis, or profuse perspiration will produce the disease. The surfaces become rough, hyperæmia occurs, reddening of the irritated area takes place, affording a suitable soil for the development of the germ, which, multiplying steadily, penetrates into the deeper layers and excretes an irritating, cheesy, ill-smelling, white material, infecting the surrounding tissue. Inflammation with all its symptoms sets in, the formation of pus goes on, and the final result is ulceration.

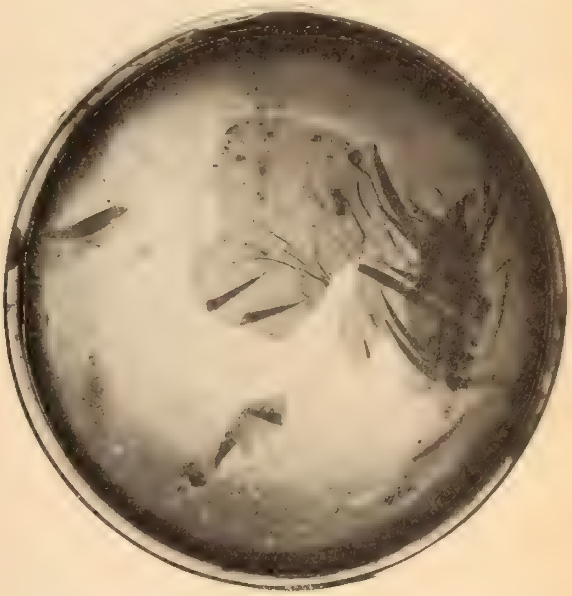


FIG. 3.—*Micrococcus intertriginis Rossbach.* Petri dish, agar, three days old. Natural size.

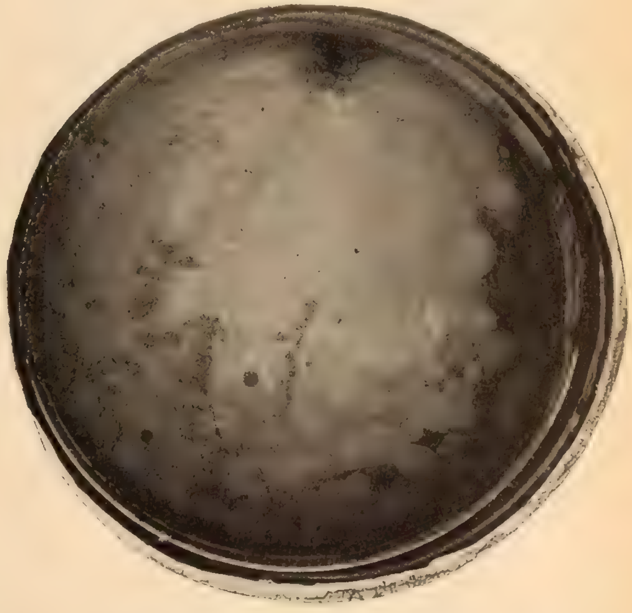


FIG. 4.—*Micrococcus intertriginis Rossbach.* Petri dish, agar, five days old. Natural size.

Biological Characteristics.—From a pronounced case of erythema intertrigo a small amount of the caseous material was introduced by means of a sterilized platinum loop into the following media: Petri dish—nutrient gelatin, glucose-gelatin, agar; culture tube—nutrient gelatin, agar, serum; potato; milk. The growth on the different media was good but rather slow.

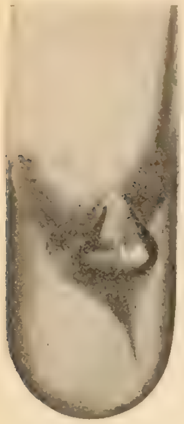


FIG. 5.—*Micrococcus intertriginis Rossbach.* Gelatin tube, one day old. Natural size.

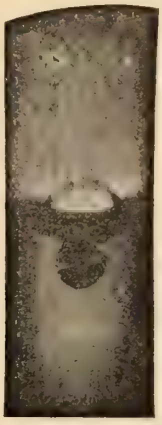


FIG. 6.—*Micrococcus intertriginis Rossbach.* Gelatin tube, two days old. Natural size.

(*a*) *On Petri Dishes.*—The colonies were spherical in shape, with fine serrated margin, and light-yellow in color. The gelatin was liquefied, forming at first a shallow depression which became gradually funnel-shaped, leaving in its concavity the fluid gelatin mixed with the colonies. A very offensive odor like rotten cheese was perceptible, especially in the gelatin cultures.

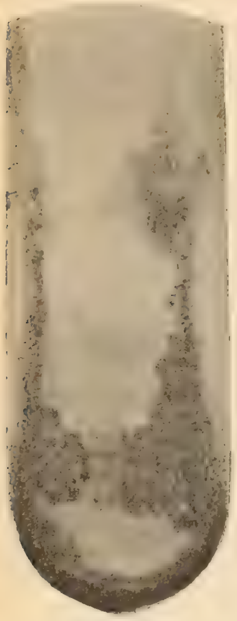


FIG. 7.—*Micrococcus intertriginis Rossbach.* Agar tube, two days old. Natural size.

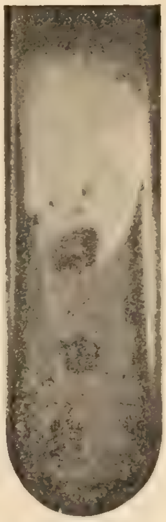


FIG. 8.—*Micrococcus intertriginis Rossbach.* Agar tube, three days old. Natural size.

(*b*) *On the Culture Tubes.*—A growth similar to that on the Petri dishes appeared. The gelatin stab cultures grew slowly, sending out fine threads which anastomosed with each other, and after an incubation of three days a shallow depression appeared and liquefaction took place. This depression molded itself into a funnel-shaped cone, sending out threads which penetrated the medium and, gradually advancing, threw out very delicate anastomosing fibres to radiate in all directions. No gas formation was apparent and the medium was not colored. On agar the cultures grew on the surface only; they were not more than a tenth of an inch in diameter and crept slowly forward, accumulating in heaps. The appearance of the colonies was slightly yellow and without any gloss. The growth on serum was

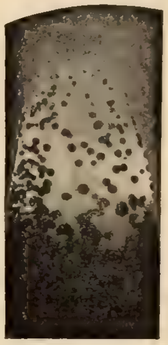


FIG. 9.—*Micrococcus intertriginis Rossbach.* Agar tube, three days old. Natural size.

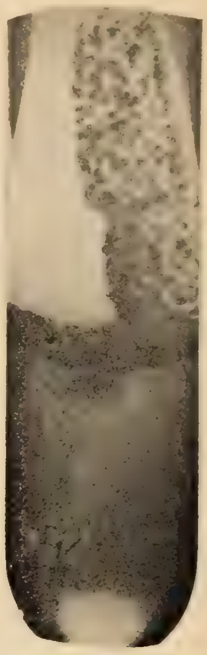


FIG. 10.—*Micrococcus intertriginis Rossbach.* Agar tube, five days old. Natural size.

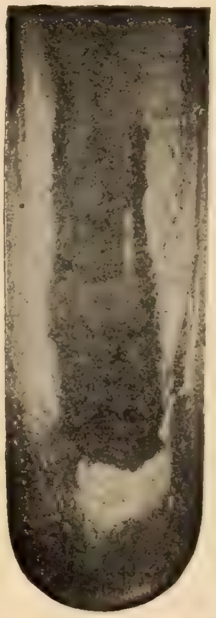


FIG. 11.—*Micrococcus intertriginis Rossbach.* Serum tube, three days old. Natural size.

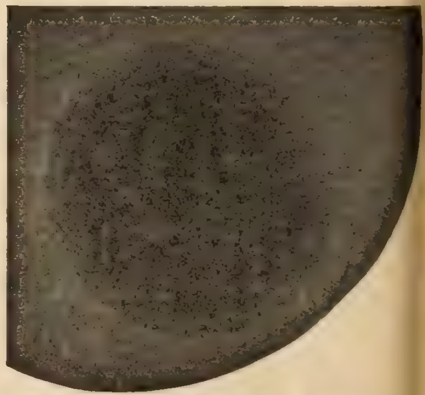


FIG. 12.—*Micrococcus intertriginis Rossbach.* From agar Petri dish, three days old. × 25 diameters.

moderately quick; the colonies covered the medium like a film of a light-yellow color.

On potatoes a yellowish-brown spot appeared from which the colonies spread, becoming lighter colored as they advanced.

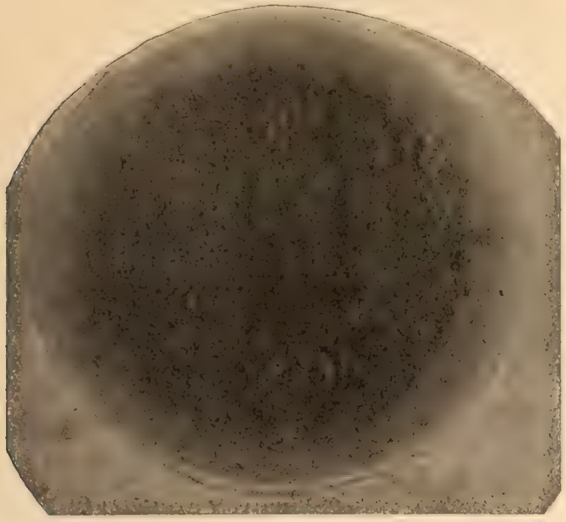


Fig. 13.—*Micrococcus intertriginis Rossbach.* From agar Petri dish, three days old × 0 diameters.

Milk was not coagulated or acidified.

Indol reaction could not be observed.

Morphology.—The germ, as seen under the micro-diameter. It has no flagella nor spores. It is aerobic. Examination of the hanging drop does not reveal any independent motion. Occasionally the cocci heap together; at other times they form very short, chainlike threads.

Staining.—Specimens stain with watery aniline dyes, especially well with methylene blue, gentian violet, and fuchsine. After Gram they decolorize, but not completely.

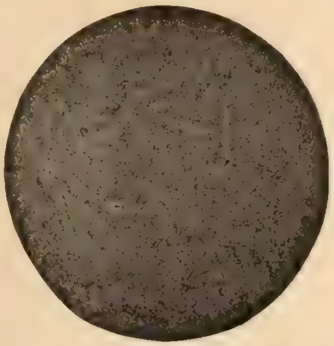


Fig. 14.—*Micrococcus intertriginis Rossbach.* × 500 diameters.

Pathogenesis.—On animals inoculated with the pure culture by scarification the disease appeared within forty-eight hours, and cultures made from these inoculations produced the same germ, which proved to be virulent to the tenth generation.

Therapy.—The cocci grow best at body temperature. They are destroyed at 70° C. and below 10° C. Of all the antiseptics which have been tried, formaldehyde in a half-per-cent. solution seems to be most effective in killing the germ.

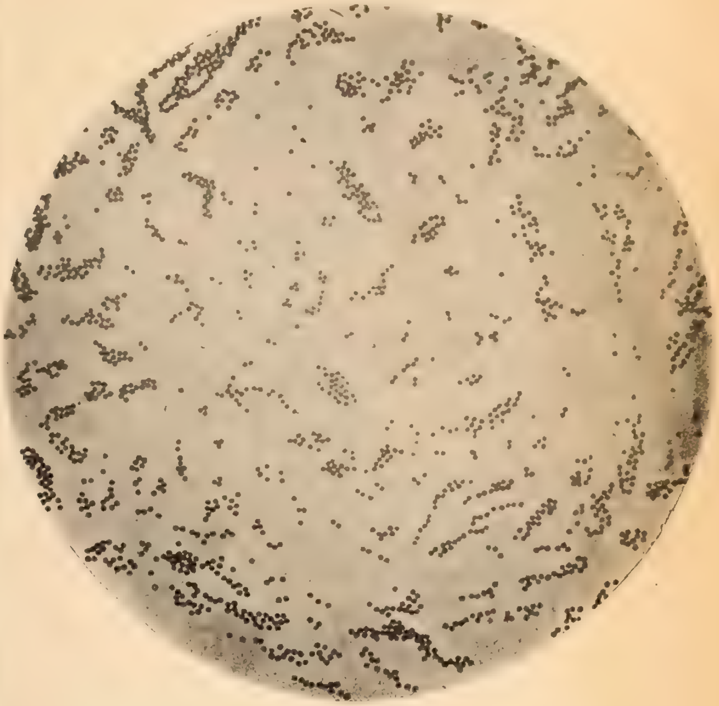


Fig. 15.—*Micrococcus intertriginis Rossbach.* × 900 diameters.

Conclusion.—Owing to the above facts, I may state that the researches made by me demonstrate positively that the real cause of erythema intertrigo is a microorganism, which I have named—as a remembrance and

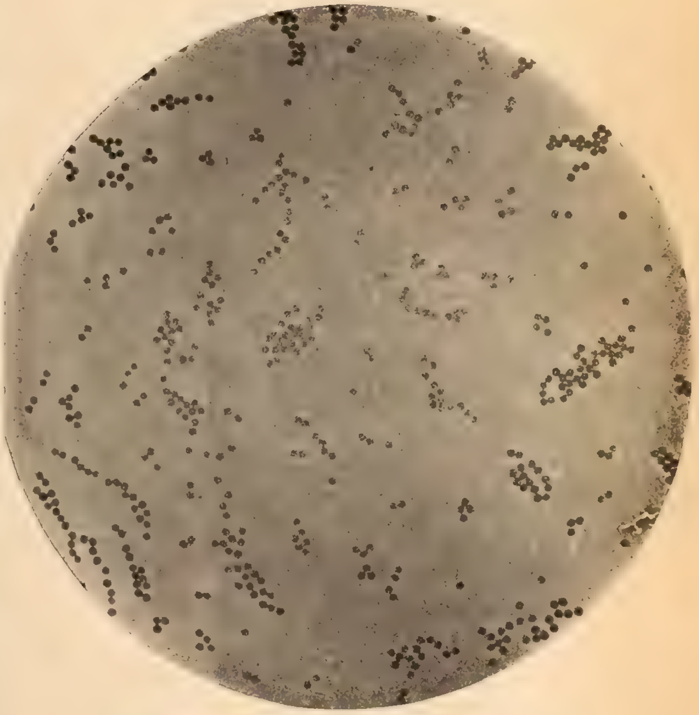


Fig. 16.—*Micrococcus intertriginis Rossbach.* × 1,200 diameters.

token of high esteem for my beloved friend and teacher, the late Dr. Joseph Michael Rossbach, professor in the Universities of Jena and Würzburg, author of many valuable medical letters, member of various scientific societies—*Micrococcus intertriginis Rossbach.*

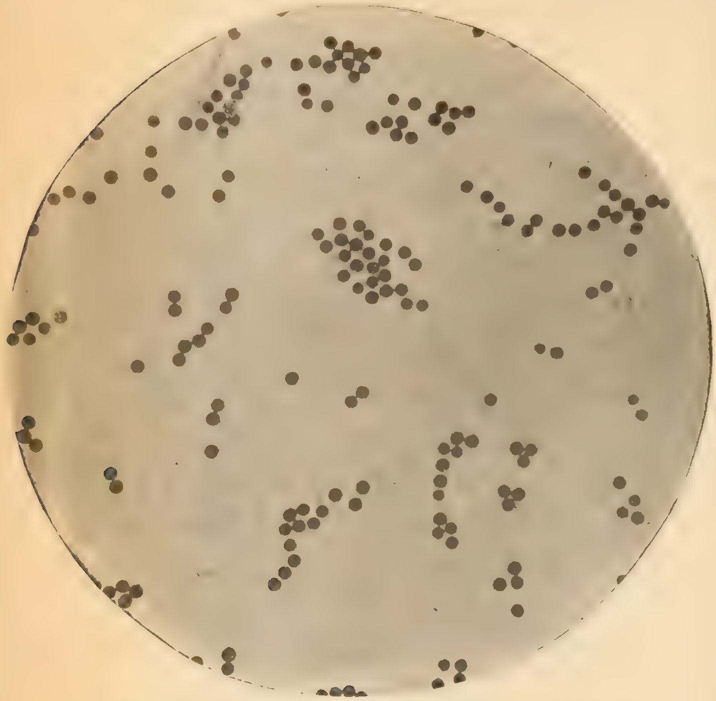


FIG. 17.—*Micrococcus intertriginis Rossbach.* × 1,500 diameters.

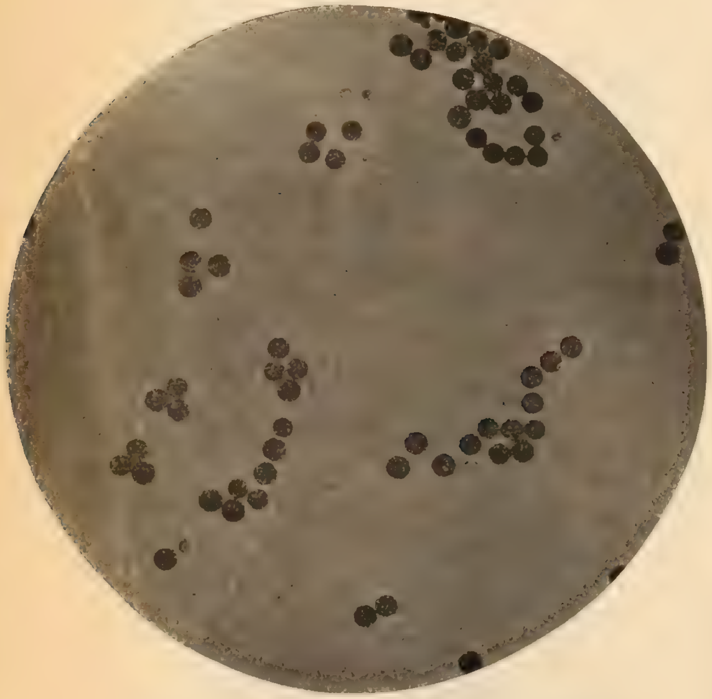


FIG. 18.—*Micrococcus intertriginis Rossbach.* × 2,000 diameters.

The Death of Professor Birch-Hirschfeld, the well-known pathological anatomist of Leipsic, is announced as having taken place recently.

A STUDY OF
SHORTENING OF THE TIBIA AND FEMUR
IN FIFTY CASES OF TUBERCULOUS DISEASE OF THE HIP JOINT.*

By RUSSELL A. HIBBS, M. D.,
SURGEON TO THE NEW YORK ORTHOPÆDIC HOSPITAL;
FELLOW OF THE NEW YORK ACADEMY OF MEDICINE.

IN studying the question of the causes of shortening of the limb in connection with tuberculous disease at the hip, from the writings upon this subject, one receives the impression that the principal cause is considered to be the destruction of bone.

This is probably due to the fact that suppuration, a conspicuous evidence of the destruction of tissue, occurs so frequently, which, with the shortening of the tibia obscured by the usual method of measuring the limb from the anterior superior spine of the ilium to the internal malleolus, suggests that the femur is chiefly affected and that bone is destroyed. It does not follow necessarily, however, that suppuration is evidence of the destruction of bone, as in many cases in which it is profuse the destruction of bone is slight, while in others that have no suppuration it is considerable. Of one hundred and six cases of hip-joint disease reported by the writer, the greatest amount of shortening was found, as a rule, in those of the non-suppurative variety (*New York Medical Journal*, November 5, 1898). The importance of recognizing the amount of shortening of the tibia is obvious, since it, in not being due to the destruction of tissue, would serve to indicate to what extent shortening was due to other causes.

For the purposes of this discussion it would seem to simplify the matter to consider the causes of shortening of two varieties: First, the direct, that due to the destruction of tissue; second, the indirect, that due to a trophoneurotic affection which causes diminution in thickness as well as length of the bones and the interference with the growth of the limb by the impairment of function. The first of these causes would be effective only while the inflammatory process was active, and the same would probably be true of the second, so far as the trophoneurotic disturbances were concerned; but in the matter of interference with growth from impairment of function, this would continue effective so long as growth was possible and in proportion to the extent of such impairment, which will be greater or less, depending upon many considerations which it is not my purpose to discuss here, though in most cases there will result some impairment of function, as you will have observed. The fact that impairment of function and interference with growth incident to it will continue until growth has been attained renders the consideration of this cause in cases that have not attained their growth of less value,

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* Read by invitation before the American Orthopædic Association at its thirteenth annual meeting, New York, June 2, 1899.

CASE NO.	Sex.	Age.	Disease.	Duration of disease.	Suppurative.	Non-suppurative.	SHORTENING.			LENGTHENING.			Duration of treatment by traction.
							Tibia.	Femur.	Limb.	Tibia.	Femur.	Limb.	
							In.	In.	In.	In.	In.	In.	
1.	F.	10	L. H.	3½ years.	1	..	½	..	..	..	½	..	3 years.
2.	M.	10	R. H.	3½ years.	1	..	..	¼	¼	..	..	..	3 years.
3.	F.	10	L. H.	6 years.	1	..	¾	¼	1	..	..	..	5 years.
4.	M.	13	L. H.	7 years.	1	..	½	1¼	1¾	..	..	..	2 years.
5.	M.	14	L. H.	7 years.	1	..	⅜	1¾	2⅛	..	..	..	2 years.
6.	F.	11	L. H.	3½ years.	1	..	¼	..	..	..	¾	½	3 years.
7.	M.	8	R. H.	3½ years.	1	..	¼	..	..	..	¼	..	3 years.
8.	M.	12	R. H.	7 years.	1	..	¼	..	..	..	⅜	⅛	6½ years.
9.	M.	5	R. H.	2½ years.	1	..	⅛	..	..	..	¼	⅛	2 years.
10.	M.	4	L. H.	3½ years.	1	..	⅛	..	⅛	..	..	..	3 years.
11.	F.	5	R. H.	2½ years.	1	..	¼	..	..	..	½	¼	2 years.
12.	F.	5	R. H.	2 years.	1	..	⅛	..	..	..	¼	⅛	2 years.
13.	M.	9	R. H.	1⅓ years.	1	..	⅛	..	⅛	..	..	..	1 year.
14.	M.	11	R. H.	2½ years.	1	..	¼	..	..	..	¼	..	2 years.
15.	M.	6	R. H.	3½ years.	1	..	¼	⅛	⅜	..	..	..	3 years.
16.	M.	8	L. H.	3 years.	1	..	¼	½	¾	..	..	..	2 years.
17.	M.	6	R. H.	5 years.	1	..	½	½	1	..	..	..	4½ years.
18.	M.	9	R. H.	3 years.	1	..	¼	½	¾	..	..	..	2½ years.
19.	M.	14	R. H.	10 years.	1	..	½	1¾	2¼	..	..	..	4 years.
20.	F.	19	R. H.	7 years.	1	..	½	1	1½	..	..	..	5 years.
21.	M.	5	L. H.	4 years.	1	..	⅛	⅜	½	..	..	..	3½ years.
22.	F.	11	R. H.	3⅛ years.	1	..	¼	1	1¼	..	..	..	3 years.
23.	M.	17	R. H.	7 years.	1	..	¾	1¾	2½	..	..	..	5½ years.
24.	F.	25	L. H.	12 years.	1	..	1	1¾	2¾	..	..	..	8 years.
25.	F.	16	R. H.	11 years.	1	..	½	2	2½	..	..	..	5 years.
26.	M.	11	L. H.	8 years.	1	..	1	1¼	2¼	..	..	..	5 years.
27.	F.	10	L. H.	2 years.	..	1	⅛	..	..	..	⅛	..	1½ year.
28.	F.	9	L. H.	1½ years.	..	1	⅛	..	..	..	½	⅜	1 year.
29.	M.	10	L H.	3½ years.	..	1	¼	..	..	..	½	¼	3 years.
30.	M.	5	R. H.	3½ years.	..	1	⅛	⅝	¾	..	..	..	2½ years.
31.	M.	7	L. H.	3 years.	..	1	⅛	⅛	¼	..	..	..	3 years.
32.	F.	10	R. H.	2½ years.	..	1	¼	¼	½	..	..	..	2 years.
33.	F.	12	R. H.	7 years.	..	1	⅛	½	⅝	..	..	..	5 years.
34.	F.	8	L. H.	3 years.	..	1	¼	½	¾	..	..	..	2 years.
35.	F.	13	L H.	7 years.	..	1	¾	1½	2¼	..	..	..	5 years.
36.	M.	11	R. H.	14 years.	..	1	⅜	2½	2⅞	..	..	..	6 years.
37.	M.	8	R. H.	6 years.	1	..	¼	½	¾	..	..	..	6 years.
38.	F.	10	L. H.	7 years.	..	1	1⅜	1⅜	2¾	..	..	..	4 years.
39.	M.	13	R. H.	11 years.	..	1	¼	¾	1	..	..	..	6 months.
40.	F.	9	R. H.	3½ years.	..	1	⅜	⅛	½	..	..	..	3 years.
41.	M.	17	R. H.	7 years.	..	1	⅜	¾	1⅛	..	..	..	6 years.
42.	F.	6	L. H.	3 years.	1	..	¼	¾	1	..	..	.	1½ year.
43.	M.	5	L H.	3 years.	..	1	..	..	..	..	..	..	3 years.
44.	F.	16	R. H.	5 years.	1	..	⅜	½	⅞	..	..	..	5 years.
45.	M.	6	R. H.	8 months.	..	1	..	¼	¼	..	..	..	2 months.
46.	F.	8	L. H.	4 years.	1	..	¾	½	1¼	..	..	..	3 years.
47.	F.	13	R. H.	5 years.	1	..	¼	¾	1	..	..	..	4 years.
48.	M.	5	L. H.	2½ years.	..	1	¼	½	¾	..	..	..	2 years.
49.	M.	10	L. H.	6 years.	..	1	¼	¼	½	..	..	..	5 years.
50.	M.	7	R. H.	4½ years.	..	1	..	..	..	..	..	..	4 years.

but the difficulties in reporting a large number of cases that have attained their growth is obvious. The displacement of the head of the femur would have an important bearing upon the amount of shortening, but not being pertinent to this discussion it will not be considered, and no case has been included in this report in which it could be detected.

The fifty cases studied were observed in the New York Orthopædic Dispensary and Hospital, and are arranged in the accompanying table. Their treatment was by the traction method as applied by the long traction hip splint, and the greater part of the time as dispensary patients.

The measurement of the femur was taken from the anterior superior spine of the ilium to the line of articulation between the femur and the tibia on the inner side of the knee joint, and the tibia from this point to the internal malleolus. This I believe to be a more accurate method of measuring these bones than to use the tubercle of the tibia as a fixed point, though this also was done in most instances. I am indebted to Dr. E. J. Parish, the assistant resident surgeon of the hospital, for assisting me in measuring most of these cases.

In thirty-three cases, or sixty-six per cent., there was shortening of both the tibia and femur. In one the disease had existed less than one year, and there was a quarter of an inch shortening of the tibia and three quarters of an inch shortening of the femur. In eleven cases the disease had existed from two to four years, and the average shortening of the tibia was .23 of an inch; of the femur, .43 of an inch. In two of the latter the shortening of the tibia was greater than that of the femur, in two it was equal, and in the remaining seven the shortening of the femur was greatest.

In four cases the disease had existed from four to six years and the average shortening of the tibia was .43 of an inch; of the femur, .47 of an inch; the shortening of the tibia being the greatest in one, the shortening equal in one, and the shortening of the femur greater in two. In eleven cases the disease had existed from six to eight years and the average shortening of the tibia was .54 of an inch; that of the femur, .94 of an inch. In one the shortening of the tibia was greater than that of the femur, in two the shortening was equal, and in eight the shortening of the femur was greatest.

In one case the disease had existed eight years, and the shortening of the tibia was an inch, and that of the femur, an inch and a quarter.

In the five remaining cases of this group the disease had existed from ten to fourteen years, and the average shortening of the tibia was .57, and that of the femur, 1.9 inch. This group presents the conditions that would be expected in most cases—shortening of both bones. Note that the greatest amount of shortening of the femur is found in those cases in which the duration of treatment by traction is shortest in comparison with the duration of the disease. Instance Case 36—the duration of the disease was fourteen years, while the duration of treatment by traction was six years; also Cases 25 and 19 are similar. Of course, these are the most conspicuous, but this will be found comparatively true of most of the cases. It is reasonable that such should be the case, as when traction is applied the effect of traumatism, an important element in increasing the activity of the disease, is minimized to the greatest degree.

There were two cases in which there was shortening of neither bone (43 and 50); the disease had existed in the former three years, in the latter four years and a half. And in two cases there was shortening only of the femur (Cases 2 and 45); the disease having existed in the former three years and a half, in the latter only eight months.

It is difficult to explain the non-existence of shortening of the tibia in three of the last four cases mentioned. There might have been a congenital difference between the lengths of the tibiæ, the one of the diseased limb being the longer. In one instance the short duration (eight months) of the disease explains its absence.

In two cases, Nos. 10 and 13, there was shortening of the tibia only; in the former the disease had existed three years and a half and in the latter a year and a third.

In the remaining eleven cases there was shortening of the tibia and lengthening of the femur. In four cases of this group, Nos. 1, 7, 14, and 27, in which the disease had existed, respectively, three years and a half, three years and a half, two years and a half, and two years, the lengthening of the femur was equal to the shortening of the tibia, thus showing the limbs of equal length; while in the remaining seven cases the lengthening of the femur was greater than the shortening of the tibia, thus showing lengthening of the limb, the amount varying from an eighth to half an inch. The duration of the disease in six cases was from two to three years and a half, and in one case seven years.

Thus it may be seen from the conditions found in a group of cases how a measurement of the limb as a whole would give an incorrect impression of the effect of the disease, and emphasizes the importance of measuring these bones separately. I have no doubt that many of the cases reported as having no shortening or even lengthening of the limb are such as these, and if measured in the same way would present a similar condition.

The cause of this undoubtedly is a congestion of the epiphysis of the femur which is due to the inflammatory action of the disease, when in proximity to it, increasing the activity of its growth.

A similar condition is often seen in the course of knee-joint disease where there is lengthening of either or both bones. An increased activity of the growth of the femur at this point may be sufficient to prevent shortening of the limb, or even produce lengthening for a time in the course of the disease, as was true in these cases; in one the disease had existed seven years (Case 8); but it is doubtful if this activity of growth will be sufficient to counterbalance the more constant causes of shortening and prevent their appearing ultimately some shortening of the limb. Measurements taken of the case just mentioned (No. 8) eighteen months previous showed three quarters of an inch lengthening of the limb, while now there is only an eighth of an inch lengthening. This patient will unquestionably have a certain amount of shortening when he has attained his growth.

The important relation that exists between function and nutrition, and the well-known fact that shortening increases somewhat after the disease has become inactive, suggest the probability that this increase will continue as long as growth is possible. As the less active growth of the diseased limb is due to impaired function, a condition found as a result of this disease in most instances and one which is, as a rule, permanent, the increase of shortening will be proportionate to such impairment and to the years of growth to be attained.

I do not take the position that patients with tuberculous disease at the hip have not recovered with limbs of equal length after growth has been attained; but I think they are exceedingly rare, and are only such as have recovered from the disease very early in childhood, the treatment having been of short duration, with the normal function of the joint restored.

While shortening of both the tibia and femur is present in the large percentage of these cases, it would seem desirable, in order to arrive at some general conclusion as to the proportionate responsibility of these bones for the shortening of the limb, which would represent as truly the ultimate condition as possible, to consider only those cases in which the disease had existed longest, which are as well those nearest the end of the period of growth. There are thirteen such cases, the disease having existed from seven to fourteen years, their ages varying from ten to twenty-five years. The average shortening of the tibia was .70 of an inch, while that of the femur was 1.47 inch, thus showing the shortening of the femur about twice as great as that of the tibia. Whether this proportion will exist at a future period in the history of these cases it is impossible to say, though it is probable it will, in view of their age, the duration of the disease, and the inactivity of the disease in most instances. I would emphasize the importance of this fact, however, namely, that the knowledge of this proportion, whatever it may be in any case, furnishes a means by which a fairly correct estimate may be placed upon the causes of shortening as to their comparative responsibility for it. It is obvious that the destruction of tissue can play no part in the cause of shortening of the tibia, though one half of the entire shortening of the limb is represented by that bone in these cases. If the indirect causes of shortening, the trophoneurotic affection caused by this disease, and the interference with growth by impairment of function, produce this effect upon the tibia, it is fair to assume that the femur will also be affected in this way to as great a degree, which fact suggests that destruction of tissue, the direct cause of shortening, is of less importance than the indirect causes, probably producing not more than one third of the total amount.

In all of these cases in which the disease had existed any considerable length of time the foot of the affected limb was smaller. That the diminution in the thickness of the tibia might be appreciated, radiographs of the tibiæ were made in many instances, those of two cases only accompanying this report, being sufficient to illustrate what was true of all that were examined in this way. These cases are Nos. 5 and 38, the disease having existed seven years in both instances. It is probable that radiographs will show diminution in the thickness of this bone as well as that of the femur earlier than shortening can be detected by measurements.

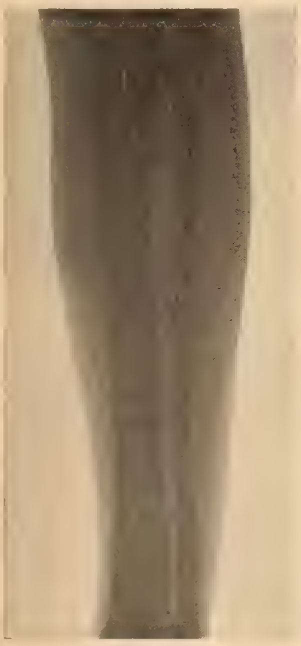

Fig. 1.—Case 5. Right tibia and fibula.

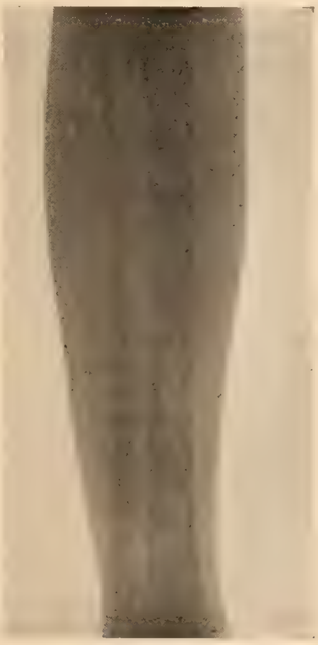

Fig. 2.—Case 5. Left tibia and fibula (diseased hip).

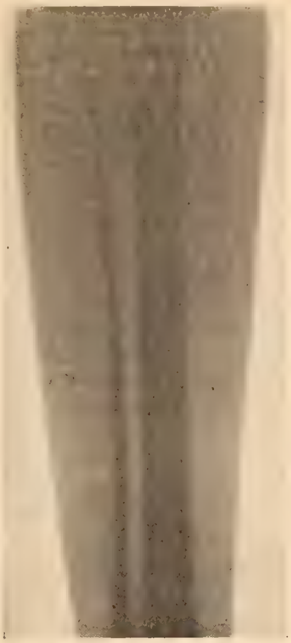

Fig. 3.—Case 38. Tibia and fibula of limb of diseased hip (left).

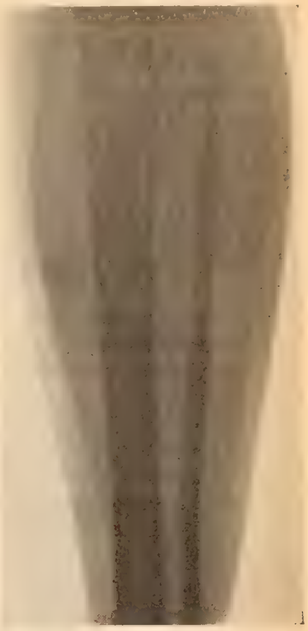

Fig. 4.—Case 38. Tibia and fibula of healthy limb (right).

CONFINED SUPPURATION OF THE FRONTAL SINUS, WITH SPONTANEOUS RUPTURE,

*INCLUDING THE REPORT OF A CASE.**

By D. BRADEN KYLE, M. D.,

PHILADELPHIA.

While there is nothing unusual in the fact that a suppurative process occurred in the frontal sinus, yet the case which I wish to report to you is of such interest, not only in the course pursued by the disease, but in the symptoms produced, the age of the patient, the history of slight clinical phenomena, together with the external necrosis and spontaneous opening, as to render it worthy of report. The history is as follows:

Mrs. A. L. C., aged sixty years. In January, 1898, after being indisposed for a few days, she experienced a sensation of fullness on the left side of the nose, opposite the inner angle of the orbit. There was no pain, only a sense of uncomfortable fullness. There was a considerable discharge from the nose of a thin, watery secretion; the character of the secretion varied slightly in the morning, when it was thick and tenacious. There was a great deal of swelling over the face, especially between the eyes, which gave a peculiar facial expression, as though the eyes were wide set. There was not much tenderness on pressure over the swollen area. There was, however, some soreness at the inner angle of the eye over the region of the ethmoid cells. During the month of February the patient had quite a severe attack of epidemic influenza or *la grippe*. She was confined to her house about a month. During this attack there was practically no change in the condition of the forehead. The swelling remained about the same, and there was possibly a slight increase in the clinical phenomena. However, after the patient was able to be up, which was about the 1st of April, the swelling became more marked, especially under the eyes and on the left side in the region of the nasion, about an inch and a half above the base of the nose. There was considerable discharge from the nostril, possibly more puslike, although nothing more than would be from an ordinary continued rhinitis. There was more soreness at this time, although not painful; the patient complained of malaise and a peculiar sick feeling; there was marked general debility, and the patient seemed to be falling very fast in general health. Prior to this attack she had been in the best of health—had never up to that time even suffered from a headache. During the month of May the patient developed marked swelling in the limbs — in fact, all the symptoms were aggravated; there were sore spots here and there over the limbs, with some petechiæ and slight inflammation. There was constant shifting of these spots. There were pronounced aching about the joints and symptoms of a decided rheumatic condition or gouty diathesis. There was very little change in the swelling of the face; if any difference, it was more marked. At no time was there any acute pain, the prominent symptom being the œdematous condition. The history as given was furnished by Dr. Brouwer and Dr. Schurman. The patient had lost over thirty pounds in flesh, and was quite weak and debilitated. The last of June she consulted me, when I found the following conditions present:

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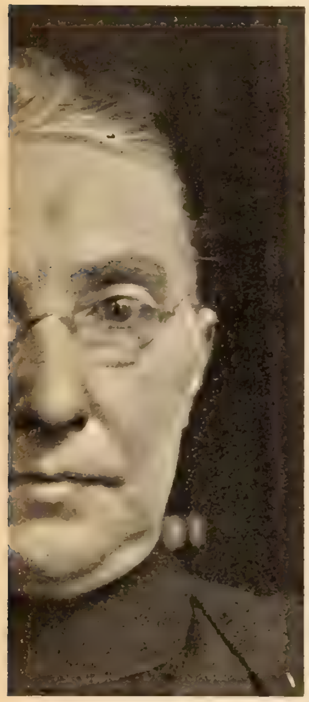
* Read before the American Laryngological Association at its twenty-first annual congress.



The tissue on the forehead was so swollen that it hung down over both supraorbital ridges, with marked swelling under both eyes, especially the left, giving the patient's face a most peculiar appearance. In the median line, about an inch above the line of the supraorbital ridge, was a marked projection, almost tumorlike, with distinct redness, and somewhat pitted in the centre, with a small spot on which there was some dried secretion. On examination of the nose I found practically no discharge on the right side, only a slightly catarrhal inflammation; the left side was markedly œdematous; the mucous membrane was covered with a thin, glairy discharge, with tendency to accumulation. The upper part of the nostril was so œdematous and swollen as to completely occlude the cavity. This tissue was depleted by the local use of an eight-per-cent. solution of cocaine, and after retraction of the tissue I could elicit no discharge from the openings of any of the accessory cavities. After the use of the cocaine there was perfect breathing through the nostril. There was practically no pathological alteration within the nasal structure, the sæptum being almost straight, and there was no enlargement of the turbinal bodies or lining membrane. Transillumination was resorted to, from a diagnostic standpoint, and the antra showed a perfectly clear outline. I was unable to make any satisfactory illumination of the frontal sinus or of the upper portion of the nose; however, I believed I had to deal with a confined suppuration in the left frontal sinus, or possibly involving both sinuses. In passing a probe over the skin at the point of bulging with pitting, on removal of the slight crust formation I found that the necrotic tissue had given way and the abscess was already opened externally. On pressure, and by the patient leaning forward, there was a discharge of foul-smelling thick pus, and by slight digital examination I found that there was a necrotic area, almost circular, about three fourths of an inch in diameter. I then passed a probe into the opening, and, allowing it to follow the line of least resistance, it passed down without any force whatever, until it lodged against a soft material. By tapping it gently I felt that it was necrotic bone. With a little pressure the probe passed through into the nasal cavity. At the same time light was reflected into the nostril, and the point of the probe could be seen on the sæptum side of the middle turbinate, about the middle third. I then had free drainage. After the discharge of pus the sense of fullness at the inner angle of the orbit, which had continued from the first, entirely disappeared. The cavity was flushed out with warm boric-acid solution, followed by hydrogen peroxide, cinnamon water, and aqueous extract of hamamelis, equal parts. Within forty-eight hours the swelling had entirely disappeared from the face. The time from the spontaneous opening of the abscess until the complete closure of the wound was about two months. Occasionally the external opening would become occluded with dried secretion with slight return of the facial swelling; on reestablishment of drainage this quickly disappeared. The patient's general health was improved by internal medication. Urinary examination showed no structural lesion of the kidney, but some leakage of serum albumin, possibly from relaxed blood-vessels. The internal medication consisted of Basham's mixture in drachm doses, as well as a sixteenth of a grain of the double sulphide of arsenic with a thirtieth of a grain of the nitrate of strychnine.

From the anatomical relation and histological structure it would seem more likely that the necrotic process would have involved the inner plate of the frontal bone instead of the outer; as to why in this individual case the necrosis involved the outer plate I can not explain. The edges of the necrosed bone were quite smooth and the opening almost a circular one, three quarters of an inch in diameter. The only surgical interference was the passing of the probe from the base of the cavity down into the nostril. It is my own opinion, and from the history of the case, that this began as a suppurating catarrhal inflammation, and that in the inflammatory process the opening into the nasal cavity was occluded, for in passing the probe from the sinus into the nose I met with no bony structure, but simply granular and necrotic material. I had very little difficulty in keeping this passage open. Occasionally it was occluded by the accumulated dried secretion. My reason for non-surgical interference was this, that if in the process of a confined suppuration the inner plate of the frontal bone and the other structures involved had resisted invasion to such an extent as to allow necrosis of the outer plate of the frontal bone there was no danger now of systemic infection from that source, and that if this structure had offered resistance during the confined suppuration, it was still a good protecting agent, and I reasoned that if the surface was freed from infection the sinus formed would fill in with granulations, and that by surgical interference I might only open up the lymphatics and blood-vessels and make an open way for systemic infection. The termination of the case proved my theory to be a correct one, for after thorough cleansing with antiseptic solutions and getting rid of all infection the opening healed by granulation, the bony part forming through the proliferation of the osteoblasts new bony structure, which, of course, obliterated the frontal sinus and gave a firm, solid wall. Whether there was an irregularity in the formation of the frontal sinuses I can not state, but either the left frontal sinus was abnormally large, or else the sinuses communicated, as the abscess cavity extended well to the right of the median line. The treatment consisted in the thorough syringing, first with a warm alkaline solution, followed by hydrogen peroxide, cinnamon water, and aqueous extract of hamamelis, equal parts. Suction was then applied and all this material drawn off. This was followed by a saturated solution of boric acid. By cleansing thoroughly the nasal cavity the solution would pass from the sinus into the left nasal cavity, showing the direct communication with the nose. After the first twenty-four hours I had little difficulty in keeping the sinus open, thus permitting through-and-through drainage. There was then blown into the cavity by means of an insufflator equal parts of boric acid and aristol. In the beginning I packed for three or four days, removing the packing each day, with gauze saturated with aristol. The nasal condition cleared up as soon as I was able to get rid of the infection in the sinus. This infected material of course flowed down over the nasal mucous membrane, producing marked irritation. The nasal discharge entirely ceased with the closure of the sinus, and now the patient is free from any catarrhal secretion, the nasal mucous membrane presenting a very normal appearance. The bony structure has filled in to such an extent that it leaves a very little depression and there is a very slight scar, as shown in the photograph.

You are all familiar with the recent literature on the subject, and many able articles on empyema of the frontal sinus have been published, but by a careful search of the literature I was unable to find a case identical from all standpoints. Morell Mackenzie (1) quotes a case reported by Richties in 1737 in which there was spontaneous discharge of caseous matter through the external table of the frontal bone and through the middle of the upper eyelid, which resulted fatally, evidently confined suppuration of the frontal sinus. Armstrong (2), in 1886, reports two cases of confined suppuration, but in neither spontaneous rupture; also a case of necrosis of the orbital plate of the frontal bone, following acute abscess, in which there was necrosed bone, but the discharge came through the nostril. He also reports three other cases of confined suppuration, but in all operative interference was instituted. Lennox Browne (6) reports a fatal case of suppuration of the frontal sinus, in which, on post-mortem examination, it was found that the abscess had penetrated inward, and pus was found between the dura mater and the inner table of the frontal bone. C. Ramage (7) also reports a case of necrosis of the outer layer of the frontal bone, in which, however, the abscess was reached by incision. In all these cases there was a continuous discharge of pus from one or both nasal cavities, and there was not spontaneous rupture. Lawson (10) reports a case in which there was no discharge from the frontal sinus into the nose, and the abscess formation followed an injury. In his case the sinus was tapped through the nostril. Wells (11) reports a similar case of confined suppuration. Hodges (12) and Bousquet (13) both report cases of confined suppuration. Bousquet's case resulted fatally, and the autopsy showed the right frontal sinus full of caseous material, discharging through two openings, one into the cavity of the orbit and the other into the anterior lobe of the brain. Nicolai in 1724, and Runge and Richter in 1776, give the first clearly defined history of abscess of the frontal sinus. While the literature of abscess of the frontal sinus is replete with reported cases, yet, as I said earlier in the paper, I find practically none identical with the case above reported.

Literature.

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FIBROUS TUMOR OF THE NASOPHARYNX.

*SEQUEL.**

By E. FLETCHER INGALS, M. D.,
CHICAGO.

I desire to make a supplementary report of a case which, if I remember correctly, was presented to this association some years ago:

A man, now twenty-eight years of age, came to me when a boy of thirteen years with a fibrous tumor in the nasopharynx. I removed the tumor as thoroughly as possible, but some part of it which was attached to the vertical plate of the palate bone could not be eradicated. Finally, it began to crowd out beneath the zygomatic arch. The late Professor Gunn made an incision in the cheek from the angle of the mouth to the ear and attempted to remove it, but the hæmorrhage was so profuse that he was obliged to check it as best he could without removing much of the growth. Not long afterward the boy became somewhat wild and was running about the city with no friends to care for him, so, fearing he would get into bad company, I sent word to his father to take him home. When he went home some of the growth was still present. This was fifteen years ago, and the patient now tells me that the growth continued to increase after he reached home for about a year, by which time the right naris was completely closed, the right malar bone had become very prominent, and he had lost the sight in the right eye. For many months the tumor continued without any considerable change and he had no treatment. In the course of a couple of years he again began to breathe a little through the nose. Afterward he steadily improved, until at the end of a couple of years the nasal cavity appeared perfectly free, and now he says the right cheek is growing smaller. His right eye appears nearly normal, but is blind.

A very interesting feature in this case is that the fibrous growth, which occupied the nose for four years, has disappeared. The right nasal cavity is now an inch in its lateral diameter, the sæptum is crowded away over to the left side, and the turbinated bodies have been destroyed by the pressure. There is a large opening into the sphenoid cells into which the growth formerly extended. The case is especially interesting as showing not only the tendency to recurrence of fibrous growths, but also a disappearance of this tendency as a person advances in life toward twenty-two years of age, and a possible tendency to complete atrophy, as in this case, in early adult life.

THE
POTENTIALITIES OF THE PHYSICIAN.

By KENNETH W. MILLICAN, B. A., M. R. C. S.

(*Concluded from page 851.*)

3. We now come to our third division, the *potentialities of the physician toward the community*. And here the field is limitless, coterminous only with the whole social horizon. To quote Beverley Robinson * again:

"We want our cities and towns to be thoroughly cleansed, the sewerage to be carefully and properly attended to, our streets to be well lighted, our health-board regulations to be governed with all scientific safeguards, looking to the common good and alike for the poor as well as for the rich. It is for us to insist upon, every day and at all times, the evils of our tenement-house system and the moral turpitude and physical debasement which necessarily proceed therefrom."

How well and thoroughly these things can be effected, even under the most unpromising conditions, has been demonstrated by the doctor-soldier-governor of Santiago. Hear how Mr. H. H. Lewis † epitomizes General Wood's four months' work in that city:

"He has in that time accomplished," says Mr. Lewis, "the rescue of the population from starvation to a fair satisfaction of all their daily necessities. The conversion of one of the foulest cities on earth to one of the cleanest. The reduction of an average daily death-rate of two hundred down to ten. A considerable progress in a scheme of street and road improvement that will add immensely to the convenience and beauty of the city. A radical reform in the customhouse service, resulting in increased revenues. A reduction in the municipal expenses. The correction of numerous abuses in the management of jails and hospitals, and in the care of the inmates. The liberation of many prisoners held on trivial or no charges. The reformation of the courts and a strict maintenance of law and order. The freedom of the press. A restoration of business confidence, and a recovery of trade and industry from utter stagnation to healthy activity."

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* Read before the American Laryngological Association at its twenty-first annual congress, and the patient presented for examination.

* *New York Medical Journal*, August 12, 1899.

† *Fortnightly Review*, May, 1899.

Is not that a glorious record for one physician?

But, you may say, Dr. Leonard Wood was acting as potentialities as a general and the governor of a province General Wood with plenary authority. What have his to do with the potentialities of the physician? Just this: Wood combined in his own person by a rare accident both the originating power and the executive authority. To the doctor was due much of the scheme, to the general the power to accomplish it. Let the physician learn, then, as Dr. Putnam says in the lecture before referred to, to become the educator of the community, that he may look to it for aid in the execution of that which he has devised.

But, besides sanitation, there are disease prevention by inoculation to be further studied, and the education of the public as to the enormous power and influence of "suggestion." For, as some one has well said, "our lives are but the resultant of the suggestions around us."

This subject is such a wide one, and so intensely fascinating in its study, as well as of such vital importance, that I am almost afraid to touch upon it lest I should be carried far beyond the permissible limits of this address. This much I will say, however, that it is proved beyond any reasonable cavil that through the mind the circulatory system can be influenced to a considerable extent, not only as a whole but in confined local areas. As familiar examples of the unconscious type may be mentioned blushing and the quickening of the heart's action under the influence of alarm. There the suggestion operates on the mind from within to produce palpable effects in the material sphere. As an instance of the power of suggestion from without, it is well known that if one person in a group begins to yawn, sooner or later nearly every one in the group will follow suit.

And as with the circulation, so with the body temperature, the vegetative functions of the body, the inhibition of reflex action, and the perception of pain—all these under the influence of suggestion can be modified and to some extent controlled. In the heat and excitement of battle, in the concentration of mind and will power evolved in the effort to escape from imminent peril, and in the condition known as "a brown study," that consciousness of severe nerve irritation which we call "pain" is often entirely lost until the mind is free to take cognizance of it once more. It is as though one should send a telegraphic message along a wire to a receiver at the other end. The message is transmitted, but, if the operator at the other end is busily engaged in some other occupation than attending to his instrument, it goes unheeded. Now, that operator may be inattentive, either on his own account because he has something else which he has inadvertently or willfully permitted to engross his attention, or through the agency of a friend who may have induced him to leave his office to "come across the road and have a drink." Yet, whatever the cause of his inattention, the message, though duly transmitted, is never received, and fails of its effect.

Suggestion may operate upon the mind and through it control the physical operations of the body, whether originating from within or initiated from without, and in either case voluntarily or unconsciously. On the extent to which it can be voluntarily developed for the relief of pain, I should like to read a brief extract from an address delivered before the New South Wales Branch of the British Medical Association by the Hon. J. M. Creed,* a member of the legislative Council of New South Wales, and a physician of repute. Dr. Creed produced two gentlemen, "both highly intelligent men, possessing more than average business knowledge and common sense," in whom he had been able to induce by repeated suggestion a capacity to become instantly insensible to pain at will. Dr. Creed said:

"On making use, either in my presence or when I am absent, of the arranged signal, which in the one is placing the forefinger of the left hand on the lips, in the other inserting the tip of either thumb between them, they instantly set up this extraordinary condition.

"To the bystanding observer there is no apparent change; they converse, go on with their occupation, and do everything just as if nothing had taken place; but in spite of all this they have, on using the signal, ceased to be sensible to pain. Nothing hurts them, and they can submit to being pricked, pinched, or otherwise maltreated without the slightest feeling. This you can test yourselves, for my patients, though, as you perceive, quite conscious of everything going on, will have no discomfort as the result of your efforts to hurt them. Nor are they only insensible to pain arising from injury inflicted while they are in this condition, but if at any time they have any, whether arising from accident or consequent on the morbid condition of any part (for instance, in toothache or neuralgia), by making use of the signal it ceases instantly.

"As a case in point, Mr. H. could, and if you wish it will, tell you how, when a considerable quantity of molten and flaming 'Chatterton's compound,' the melting point of which is very much higher than that of sealing wax, fell upon his hand, the torture from which would, under ordinary conditions, have been both lasting and intense, and which had actually commenced, he by making use of the arranged signal never for one moment felt the slightest discomfort from it. I did not see him until a week after the accident, when he showed me a deep wound from which the eschar had separated. A more crucial test than this it would be difficult to conceive, and yet he assures me that from the moment he touched his lips with his left forefinger he suffered no further pain. Some time after this he came to consult me, having accidentally torn his hand to an extent which necessitated the insertion of several stitches after antiseptic cleansing. He made use of his signal, and I did all that was necessary without his having a disagreeable sensation. He held his hand in any position I required, and assisted me in what I was doing, chatting all the time, being as interested and as little inconvenienced as if the little operation was being done on some one else. How long this condition would continue if left unchanged (*sic*) it is difficult to say, for I give my subjects the power to restore sensibility by another signal. I do this because, without the safeguard of pain, they might seriously injure themselves, and yet be unconscious of the occurrence. I would, however, point out that, though the power to feel pain from a fresh cause is restored, that which has been removed in this way does not return."

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* *Australasian Medical Gazette*, January 20, 1899.

That this is no claptrap is shown by the footnote appended to Dr. Creed's paper by the editor of the *Australasian Medical Gazette*, in which the address was published, which reads as follows: "The subjects when requested produced the condition described, which was thoroughly tested by the members present, who found that, *though completely conscious and in possession of the fullest mental acuteness*, they were quite insensible to pain." The italics are mine.

The bearing of these facts upon fads of all kinds, such as Christian Science and faith-healing in its various manifestations, is obvious. It is not the good effects which, in accordance with a general and now fairly well understood law of nature, they *can* produce that are objected to, but the absence of that knowledge and training which are essential to define the limitations of its influence, and to prevent its doing more harm than good, whether by the wasting of valuable time when other measures are imperatively necessary and must be resorted to in the end, or in cases in which the dangers are objective, not subjective, as in the case of the infectious diseases.

Among other potentialities of the physician in relation to the community I can only briefly refer to the ultimate elimination of tuberculosis and other transmissible diseases and to the furtherance of the procreation of a healthy race—not, I would venture to suggest, by undue restrictive legislation as regards marriage or divorce, which in my judgment will only inevitably replace that which is open by that which is clandestine, but by the education of men and women in the science of the relation of the sexes in its threefold nature—mental, emotional, and physical; by the training of defective children, in which, as borne witness to by Dr. Putnam in the Shattuck lecture, remarkable results have been attained both in Europe and in this country, and notably in the Massachusetts School for the Feebleminded; and also by what must follow as a corollary from the practical application of all the preceding factors—viz., the diminution of insanity and crime.

These are all broad issues upon which the physician can fruitfully labor with a view to the ultimate benefit of the community at large. But in order to enable him to attain the influence over the public mind necessary to render his labors effective, he must strive to maintain the right of his calling to be once again undeniably classed among the "learned professions." No doubt there never was a time when, absolutely speaking, the average learning and intelligence of the members of the medical profession were greater than they are at present; but, relatively to the standard of general improvement in that respect, can we with truth assert a like average preeminence of the physician over his fellows to that which was conceded of old time? Surely, his must be no narrow technical training, but one of breadth and expansiveness; not a mere skeleton of dry science, but a living thing of intensely human character. Apart from his life's work there is a something calling to every man to pursue it, if he will only heed. We can not all be poets, novelists, painters, but there is always some sphere of *creative* work beckoning to each of us. Let us, then, seek out for ourselves, each in his separate path, what it is, and then pursue it. While giving us rest for our tired faculties, it will rouse to activity others that are sleeping while we work, and will prevent them from atrophying.

And, finally, in all these things about which we have been thinking, there are certain general principles pleading for adoption. They are breadth, preparedness, earnestness, sincerity, and wholesouledness.

Breadth is well expressed by that quaint little society of the Philistines which is authoritatively described as "organized to further good-fellowship among men and women who believe in allowing the widest liberty to individuality in thought and expression."

Of *preparedness*, what better example can we take than Dewey? Mr. Barrett (*Harper's Weekly*, September 30th) quotes him as having said:

"I never expected that such an opportunity as this would be mine, and I did not especially hope for it, as that would have meant hoping for war; but time and time again I went over in my mind what I would do and how I would act, if I were in command during a battle."

What this preparedness enabled him to accomplish everybody knows.

But to no one more than to the medical practitioner is the duty of preparing constantly to meet the emergency whose time of coming none can foresee, if it ever come at all, one of paramount obligation.

Of *earnestness*,* that gifted writer, Ella Wheeler Wilcox, says:

"The hurry of the times affects us so
In this swift rushing hour, we crowd, and press
And thrust each other backward as we go,
And do not pause to lay sufficient stress
Upon that good, strong, true word, 'earnestness.'
In our impetuous haste, could we but know
Its full, deep meaning, its vast import, oh!
Then might we grasp the secret of success.

"In the receding age, when men were great,
The bone and sinew of their purpose lay
In this one word. God likes an earnest soul;
Too earnest to be eager. Soon or late
It leaves the spent horde breathless by the way
And stands serene, triumphant, at the goal."

Of *sincerity*, one of the most beautiful stories, whether it be fact or fiction, that I have read is this: The Pope one day received in audience a great friend of Rénan, the agnostic. "Did he die impenitent?" asked the Pope. "I regret to have to answer, Yes, your Holiness," replied the friend. "Yet I am glad," responded the Pope, "for it proves that he was sincere, and the good God will judge him by his sincerity."

And, finally, as to *wholesouledness*, what better can I say to you than the words of Kipling,† who, speaking of that time after "Earth's last picture is painted" when, having been called from refreshment to labor, the "Master of All Good Workmen shall set us to work anew," says:

"And only the Master shall praise us, and only the Master shall blame;
And no one shall work for money, and no one shall work for fame;
But each for the joy of the working, and each, in his separate star,
Shall draw the Thing as he sees It for the God of Things as They Are!"

Euphthalmine; a New Mydriatic.—*Lyon médical* for November 26th attributes the following to Dr. Grandclément: A few drops of a collyrium containing three grains and three quarters of euphthalmine to one hundred and fifty grains of distilled water dilate the pupil at the end of from ten to twelve minutes, while accommodation is only disturbed for about an hour subsequently.

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* From *Poems of Passion*. By Ella Wheeler Wilcox. Copyright, 1883, by Ella Wheeler. By kind permission of the author and the publishers, W. B. Conkey & Co., Chicago.

† From *The Seven Seas*. By Rudyard Kipling. Copyright, 1896, by Rudyard Kipling. D. Appleton and Company, New York, publishers.

RHINŒDEMA.*

By H. HOLBROOK CURTIS, M. D.

In none of the works on the nose and throat do I find mention made of nasal œdema or dropsy, though I have encountered several well-marked cases clinically, where an undoubted œdema has existed for a very long time, and has given rise to such severe manifestations that it seems warrantable to dignify the affection by a name, as has been done where an œdema exists in other parts of the body, as anasarca, ascites, hydrops oculi, pulmonary œdema, hydrocele, hydrocephalus, etc. As regards the ætiology of nasal dropsy, we must admit that the causation is more obscure than that of cardiac or renal dropsy. Ranvier has shown that ligation of the vena cava of a dog does not usually produce any œdema of the extremities, but if one sciatic nerve is divided the limb on that side becomes at once œdematous, the explanation being that as long as the nerve is intact the lymphatics are able to absorb all the fluid which exudes from the capillaries, but when the nerve is divided the arteries dilate and pour out more fluid than the lymphatics are able to absorb, hence the œdema. This œdema is not due to paralysis of the limb, but to paralysis of the vessels, for when the vasomotor fibres which supply the sciatic are cut œdema takes place without paralysis; but if the motor strands of the sacral plexus are cut before they are joined by the sympathetic fibres, we find a paralysis without œdema. We may analogously regard the œdema occurring in the nose as a vasomotor phenomenon either due to a paresis brought about by overexcitation of the vasomotor nerves or to a direct injury to the nerves themselves, either by pressure or disease.

If we had only this causation of œdema our task would be simple. We know œdema to be caused locally where impeded venous return causes a dilatation of the arteries, and also where the arteries are dilated by other causes without venous obstruction. Winniwarter has shown that vessels in an inflamed part are more permeable than in healthy tissue, as instanced by the infiltrated welt in scratching an urticaria.

Again, local œdemas are caused by anæmia. We are all familiar with the general dropsies of the kidney and heart. In the kidney those diseases which have the most albuminuria are productive of most dropsy, usually first evidenced in the eyelids.

Cardiac dropsy from regurgitation generally appears first in the feet. Local œdemas about certain inflamed joints and tissues, not dependent on cardiac or kidney lesions, are due to the dilatation of vessels in inflamed parts.†

The habitual imbibition of large quantities of water is often productive of infiltration of the mucous membrane of the larynx and nose. A prominent judge of this city applied to me some years ago for recurring œdema of the arytænoids, which I was able to trace to this cause. He made a practice of drinking two quarts of water during the night and much more through the day. No cardiac or renal disease existed, and he recovered by abstaining from water except in small quantity.

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* Read before the American Laryngological, Rhinological, and Otological Society, at Cincinnati, June 3, 1899.

† *Quain's Dictionary*. Lauder Brunton.

We must differentiate between a hyperplasia and a dropsy, and I am convinced that many cases of so-called winter hay fever are cases of true rhinœdema. In this connection it might be well to review that ever-interesting subject, to discriminate between it and a dropsy of the nose.

Hay fever, for want of a better term, has probably resisted treatment more effectually than any of the nasal affections for which we are called upon to prescribe. The particular pollen which gives rise to the vasomotor phenomena in individual cases must be ascertained by careful study, and only by a removal of the ætiological factor for a number of years can we hope for a cure by climatic influences. (I will say in this connection that I am still experimenting with the immunizing extracts of flowers I reported a year ago.)

Three types of cases are to be considered, the anterior, the posterior, and general erectile irritations, which induce the stoppage of the meatus. The anterior tumefaction occurs sometimes independent of the posterior, and is characterized by intermittent excitation of the erectile tissues of both the inferior and middle turbinates anteriorly, with ofttimes a thickening of the tissues of the tubercle of the sæptum.

The posterior condition may obtain independently of the anterior, affecting only the erectile tissues on the posterior turbinate, or, again, a general hyperplasia may be present.

The emanations of certain animals, such as the cat, the mouse, the horse, etc., as well as certain vegetable pollens, may produce this tumefied condition. The exciting cause originates in all these cases from without, acting on a constitutionally susceptible membrane. In rhinœdema we find on inspection a very similar condition, except that there is a general infiltration of the entire lining membrane of the nose; and this not dependent on any extraneous cause, such as pollen, but found at all seasons, and in patients of every station in life. The tissues are more spongy and pale, with a bluish tint; the entire nose is stopped; cocaine, ischæmin, or any known agent does not cause contraction, the vasomotor paresis persists, and a true œdema supervenes. In certain cases this lasts for months, the nostrils remaining impervious. The nervous system becomes greatly depressed; hysteria and melancholia sometimes follow. In one case encountered the mucous membrane broke down in ulcerated areas, both on the sæptum and turbinates. In other cases the nose becomes filled with a mucopurulent secretion, which can not be removed except with a probe and cotton. The external nose becomes congested and swollen as the disease progresses, and the eyes become sympathetically affected. As a complication, late in the course of the affection, the accessory sinuses may become involved.

The distress experienced by a patient with œdema is vastly in excess of that encountered in simple rhinitis vasomotor *periodica* (or hay fever). The absolute despair of the victim is at times pitiable, and the inability to afford even a temporary relief is discouraging to the physician.

This affection appears chiefly in neurotic women and men of sedentary habits, between the ages of thirty and fifty, and sometimes in youths of fifteen to nineteen. From a careful investigation of the latter class of cases, the conclusion arrived at has been that the disease is sometimes associated with sexual perversion, and the success of the treatment which is recommended rather confirms this hypothesis. Ofttimes, however, an œdema is independent of the sympathetic nervous system, and is directly due to impeded circulation caused by pressure of new growths situated in the superior meatus, by hyperplasias, hypertrophies, and polypi. Ethmoiditis with caries in the vicinity of the sphenopalatine ganglia was found to be the cause in a case which had been considered a gouty nose. A constant symptom of rhinœdema seems to be an intensified desire to breathe through the nose, amounting almost to mania.

Several patients have told me that, maddened by the inability to breathe, they have rushed upstairs to get some water or ice, and the awful tension was for a few seconds relaxed by the exertion.

In other cases the shock of a cold douche on the spine has served the same purpose when alternated with a hot one.

The fact that a change of climate does not as quickly relieve cases of this kind as a radical change of the *modus vivendi* has led me to institute a course of treatment or training which is rapidly productive of good. I insist that these patients go to a regular gymnasium or have a teacher come to them and give progressive gymnastic exercises to put them in a profuse sweat twice a day, after which they take a warm bath, followed by a cold shower or plunge and a brisk alcohol rub. They must keep in the open air. Usually I advise walking ten squares and back, increasing a square a day, an hour after breakfast and luncheon. In other cases I prescribe the Sandow physical exercises, of which there are twenty-eight, supposed to exercise every muscle in the body, these to be done on rising and before dinner. If this is carried out, going to a gymnasium is unnecessary.

Now I come to the most important step in the treatment of this affection, and that is the use of the rectal sitz douche with the nozzle in the centre of the cushion, by which the patient may wash the entire colon morning and night with four quarts of water in which is put a spoonful of sea salt and sodium bicarbonate. In no way can venous stasis in any part of the body be so quickly relieved, and, as a treatment to benefit the portal circulation, it has no equal as an adjunct to exercise.

This mode of treatment, with a little strychnine and digitalis, will soon put the nasal mucous membrane in condition to resist monochloracetic acid without danger of a general slough taking place. In these cases cauterizing the nose with electricity or acid in the early œdematous condition is hazardous in the extreme. All œdemas are not the result of venous stasis or impediments to the return current, and it is difficult to conceive that in the nose a true impeded return might be established. Much more reasonable is the hypothesis that altered nerve function or vascular disturbance caused by a neighboring ethmoiditis primarily induces the dilatation and infiltration, which soon partake of the characteristics of a true œdema.

While I do not consider that rhinœdema is a disease that may be isolated as an affection *per se*, I advance the term as a satisfactory word to illustrate a condition often occurring, by means of which we may etymologically differentiate a true œdema from the numerous varieties of rhinitis, under which term our nasal affections are perhaps unwisely classified.

CALIFORNIA CLIMATE AND CHRONIC DISEASES OF THE KIDNEYS.

By WILLIAM H. DUKEMAN, M. D.,
LOS ANGELES, CAL.

Next to the lungs, no organs suffer so seriously from the inclemency of the weather and undue dampness of the soil as do the kidneys. Next to overindulgence in a highly nitrogenized diet as a cause of renal diseases are exposure to cold, sudden changes in temperature, dampness of the soil, and improper clothing.

Whenever there exists a suspicion of disease of the kidneys, the patient must be most carefully watched and guarded against the above causative conditions.

The functions of the skin and of the kidneys are so closely allied that, by repeated chills of the former, with the accompanying contraction of the cutaneous vessels, there is produced a hyperæmia or congestion of the renal vessels. The action of the skin being checked, there is an accumulation of waste material in the blood; the functional activity of the kidneys is thereby increased to rid the system of this accumulation of waste material, and the final result is the induction of organic renal disease.

In the great majority of cases, chronic Bright's disease is thus slowly and insidiously brought about. So imperceptibly does it establish itself that the patient and his physician are usually not awakened to the existing condition of affairs until there is a gradual failure of health.

No assignable cause being manifest, the thoughtful physician, not to be caught napping, makes a careful and searching urine analysis and a microscopical examination of the urine, when the nature of the malady may be at once revealed.

With this brief sketch of the causes of certain diseases of the kidneys we at once readily see that the starting point in the treatment is not to be directed point blank at the kidneys, but to remedy first the existing causative conditions.

The prevalence of Bright's disease in temperate climates is undoubtedly largely accounted for by the existing variable climatic conditions, and for a person so afflicted to remain in such a climate with crippled kidneys only hastens the end. By the avoidance of any acute attacks of congestion or inflammation on the once crippled kidneys by the removal to a warm, equable climate with a dry soil, the life of such patients will be materially lengthened and many complications and sequelæ avoided.

In some portions of southern California where there exists a sandy, porous soil, where the sun shines three hundred days of the year, and the patient can be outdoors nearly every day of the year; where the temperature rarely falls below 40° F.; where exists almost a perpetual summer; where almost every climatic condition exists to relieve the crippled kidneys of any undue work, not only will the living days of such patients be undoubtedly prolonged, but they will live in peace and comfort.

. For the benetfi of such patients as may desire to know the minor particulars as to clothing, etc., adaptable to this climate, I would say, they will require the same clothing precisely as they wear in a temperate climate. The main object is to keep the skin warm; and in this climate, although it never gets cold in winter nor very hot in summer, yet flannel underwear and fleecy hosiery should be worn the year round, as well as flannel nightdresses in which to sleep, as the nights are invariably cool enough for everybody to sleep under blankets.

While the invalid can be outdoors nearly all the daytime, the changes of temperature from morning to noon and from noon to nightfall can be easily guarded against by a little attention to clothing, so that the skin may never be chilled.

The mean annual humidity in this climate varies from seventy to eighty per cent.; but where the sun shines nearly every day in the year, the high percentage of moisture in the atmosphere is of very little consequence.

As to diet, one can very easily adapt himself to avoid a highly nitrogenized diet in this climate where there is an abundance of fruit and vegetables. Very little meat will be required, as one very soon learns that indulgence in a meat diet, even for the robust in this climate, is not necessary.

Accompanying Bright's disease usually is associated a weakened nervous system with many restless and wakeful nights. Here the balmy breezes and bright sunshine very soon soothe these restless and tired nerves, and the nights are passed in calm repose.

Then, too, the varied scenery, from the verdure of the productive valley on the one side, to the purple and rugged mountains, with their distant snow-capped peaks pointing well up into the clouds, on the other, and only a few miles distant, captivates the eye and holds the mind in wonderment, the days being passed as if in a dream.

The mountains are quite near—only fifteen miles from Los Angeles—and to their peaks runs the Mount Lowe Railway, a great cable incline with a direct ascent of thirteen hundred feet; then over the Alpine division, climbing up mountain side after mountain side, in and out of cañons, in a zig-zag, serpentine course, until it reaches the top, nearly six thousand feet above sea level and only about twenty-five miles distant from the city of Los Angeles. Here the temperature is very little cooler than in the valley, and the magnificent view must be seen, as it can not be described.

On these mountains are erected hotels where the most fastidious can be accommodated. Mountain climbing can be safely pursued over the many miles of built trails and roadways to one's content, by foot or on horseback, and at a very moderate expense. This, then, adds pleasure to health.

The prospects of a patient suffering from chronic Bright's disease are, if neglected too long, exceedingly gloomy; but when not neglected too long and the structural changes are not too extensive, while reparation of the diseased portions does not take place, yet the progress of the disease can be arrested by proper care and treatment. Life is thus prolonged, as it is now well known that such patients live many years when they take the proper precaution in due time against all carelessness which may produce any attacks of congestion of the healthy portions of the organ, either by exposures to cold and damp, or by overindulgence in diet; consequently, the subjects of Bright's disease should ever adapt themselves to their condition and guard against chances.

While in a temperate climate during the summer months such patients do fairly well, because their skin is active and they can live an outdoor life. In this climate they can live an outdoor life the whole year, enjoy and relish their food with a good appetite, and pass their nights in a quiet and restful sleep.

Changes of Address.—Dr. Edmund W. Bill, to No. 24 West Twenty-fifth Street, New York; Dr. Edward F. Brennan, to No. 265 Alexander Avenue, New York; Dr. Charles J. Laffin, to No. 1545 Madison Avenue, New York; Dr. James P. McEvoy, to No. 10 East Twenty-eighth Street, New York.

THE
RADICAL CURE OF HALLUX VALGUS.*

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HALLUX valgus, or bunion, is the most important deformity of the toes. It consists in an outward deviation of the great toe from its normal axis. Just how this is caused is rather difficult to explain. Ill-fitting shoes are responsible in the great majority of cases. The changes present in an advanced case are contraction of the external lateral ligament of the metatarso-phalangeal joint of the great toe, relaxation and attenuation of the internal lateral ligament, shortening of the extensor tendon of the great toe, and an enlargement of the outer aspect of the head of the first metatarsal bone. The result of all these changes is that the great toe assumes a fixed position of abduction. It lies across the other toes, either above or below them. In those cases which have come under my personal observation, the great toe has always been on the extensor surface of the others. The sequence of events is as follows: The patient has worn, probably for some length of time, shoes which pressed upon the head of the first metatarsal. This causes an inflammation of the periosteum with proliferation of cells and new bone formation. The internal lateral ligament is attenuated by pressure from this new-formed bone. As a result of this increase in size and of the relaxation of the ligament the toe assumes an abducted position. This abduction becomes more and more exaggerated as the disease progresses. There is contraction of the external lateral ligament and also of the extensor tendon. An enlarged bursa may or may not be developed internal to the enlarged head of the first metatarsal. This bursa may become infected.

It is not, however, my present purpose to enter exhaustively upon the pathology and treatment of hallux valgus, but rather to describe a slight addition to the original procedure advocated by Professor George R. Fowler.† The history of the last case in which this operation was employed is as follows—one case is typical of the others:

J. McI., forty-five years of age, an engineer, had had a bunion on each foot for twenty years. These had always been somewhat painful. Seven years ago Dr. George R. Fowler operated upon the right foot at St. Mary's Hospital. Since then the patient has had no trouble with that foot. At the present time the relationship of the parts is perfect. For the last few years the bunion on the left foot has been getting more and more painful. A few months ago the bursa overlying

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[*] Read before the Brooklyn Pathological Society, October 12, 1899.

[†] *Medical Record*, 1889, No. 10, vol. xxxvi, p. 253.

the head of the metatarsal bone became inflamed, ruptured, and discharged a thin greenish material. For the past year the patient has been unable to work. Physical examination of the chest shows a rough systolic murmur at the apex. This case presented all the exaggerated features of a long-standing lesion. The enlargement of the head of the first metatarsal bone was extreme. The internal lateral ligament was much attenuated. The external lateral ligament was represented by a very much contracted fibrous cord. The extensor tendon of the great toe was much shortened. The operation in this case was performed September 21, 1899, by the following method:

The soft parts are transfixed with a slender-bladed knife between the great toe and its neighbor. The knife enters the sole of the foot half an inch proximad to the level of the metatarso-phalangeal joint and emerges on the extensor surface at the same level and just external to the extensor tendon of the great toe. With a single sweep of the knife the soft parts are cleanly severed parallel to the long axis of the metatarsal bones and in the web between the toes. There is no danger of injuring the tendon if the technic is properly observed. The great toe is adducted, putting the contracted external lateral ligament upon the stretch. The joint is entered by severing this ligament completely. So far but two strokes of the knife have been used. The fingers of the left hand now grasp the great toe, and by using strong adduction dislocate it completely inward, so that the toe lies on the internal aspect of the first metatarsal bone. This procedure exposes the enlarged head of the first metatarsal. With a few strokes of the scalpel the fibrous tissue on its internal aspect is loosened and then pushed back with the handle of the scalpel. The soft parts are protected and a triangular-shaped piece of bone removed either by means of a metatarsal saw or a chain saw. This triangular piece includes the hypertrophied portion of the head and also a portion of the articular surface. The proper relationship of the joint is now reproduced. Should the deformity tend to recur, as is sometimes the case, on account of the contraction of the extensor tendon, it will be necessary to lengthen this tendon. There is no need of sectioning it completely, nor is any elaborate tendon operation necessary. The lengthening is preferably done at some distance from the site of the operation proper in order to avoid any possibility of infection in the tendon. Accordingly a half-inch incision is made over the course of the tendon some two inches distant from the angle of the original incision. Through this small opening the tendon is hooked up, identified, and drawn as far out of the wound as possible. With a fresh knife the tendon is cut halfway across at the uppermost available point. The same procedure is carried out from the other side of the tendon at a point half an inch lower down in its course. Traction upon the tendon thus treated results in lengthening it sufficiently to overcome any tendency to recurrence of the deformity. The tendon is replaced and its incised edges disappear beyond the level of the incision, which is closed by two or three fine silk sutures introduced from within outward to avoid skin infection. The primary wound is closed preferably with silk, as silkworm gut is apt to cause discomfort from its stiff ends pressing against the skin between the toes. No ligatures are necessary, as none but the smallest vessels have been cut. A small piece of gauze may be introduced to act as a drain should any serous oozing occur. Separate dressings are placed upon the wounds. The parts are held in their proper relation by means of pads and two splints, one an internal and one a plantar splint. The entire foot is included in the dressing. If drainage has not been necessary, the wound is to remain untouched until the sutures are removed on the seventh day.

This procedure is essentially that devised by Professor Fowler, with this exception: one transfixion incision is employed. The accompanying lengthening of the tendon is done at a distance and not through the original incision. The success of the procedure has been, in my experience, both immediate and permanent.

MALARIAL INFECTION AS A FACTOR IN CAUSING EYE DISEASE.

By PAUL TURNER VAUGHAN, B. Sc., M. D.,
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Glaucoma following Supraorbital Neuralgia of Malarial Origin was the title of an article in the *New York Medical Journal* of recent date, and after reading the article it occurred to me that some remarks dealing with the subject of eye complications in malarial infection would not be inappropriate in a journal having such a large circulation in the Southern States as the *New York Medical Journal* has.

Quite a number of invalids coming to this resort live in malaria-infected districts, and consequently it falls to the lot of the ophthalmologist here to treat rather frequently the various eye complications caused by malaria.

Dr. Jean Manuel Espada,* in writing of the evil effects caused by paludism or malarial infection, remarks: "In all countries that are essentially paludic, all or nearly all of the inhabitants are attacked with the disease in a greater or lesser degree. One has the characteristic color of the integuments, in another the digestion is weak; again, the liver or the spleen, or both at the same time, may be enlarged, while others are affected in different ways. Very rarely do we find a person who enjoys perfect health. If, occasionally, some one is seen who enjoys apparent health, there will always be something latent found in the constitution that indicates the working of the disease."

After reading this extract it is not difficult to conceive then why a disease producing such a variety of symptoms and invading every tissue in the body should at times cause pronounced pathological change in the eye—it is only peculiar that a subject of such importance has not been thoroughly worked over by medical men in the South, where ample opportunity is presented for studying this interesting disease in all its phases.

The ocular manifestations of malaria differ according to whether they accompany an acute attack of fever or the malarial cachexia (Schmidt-Rimpler). The most prominent symptom that I have observed in the latter class of patients is a noticeable variation in the visual power at different times. During the past eighteen months several cases exhibiting this symptom in a greater or lesser degree have come under my observation; in one case it was especially marked. At the initial examination, for instance, vision was equal to $\frac{6}{24}$ in the course of two weeks it changed to $\frac{6}{12}$, and then a reduction to nearly $\frac{6}{24}$ again occurred. Ophthalmoscopically there was no finding apparent sufficient to produce such a disturbance in vision. The papillæ were somewhat enlarged, hyperæmic, and the adjoining retinal portions were cloudy. The gentleman had never had syphilis, was not a hard smoker, and was very temperate in drink. He came from a malarial district and his vision improved immediately after I inaugurated a quinine treatment.

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* *Journal d'hygiène*, and reproduced by the *Sanitarian*.

Sulzer [*] calls special attention to this variation of the visual power at different times in persons with the malarial cachexia. He remarks that the visual field is intact or only slightly contracted concentrically; the color sensation remains normal; sometimes hemeralopia exists, and occasionally photophobia. This latter symptom I have never seen among my patients, but can well understand how it could be present. He also found ophthalmoscopically the "papilla optica swollen, of a dark-red color, and the adjoining retina opaque." This agrees substantially with the findings in my case.

Poncet [†] attributes the discoloration of the papilla to the presence in the dilated capillaries of giant cells which contain pigment.

Gowers [‡] refers to singular paralytic symptoms which are met with in the course of malarial fevers or of the malarial cachexia, and especially in the latter of grave symptoms which are produced by obstruction of the cerebral vessels by *pigmentary* matter. This pigment matter is in all probability analogous to the pigment deposits referred to by Poncet.

Pennoff [#] states that he has observed deposits of black pigment in the papilla optica and along the retinal vessels, while Despagnet [||] reports thinning of the optic nerve.

Other observers have reported minute hæmorrhages, especially in the peripheral portions of the retina (Schmidt-Rimpler). I have never observed these, but any one familiar with the various types of malarial poisoning will readily assent that hæmorrhages are rather to be expected in certain varieties of this disease. This is especially true of the congestive types, but in these it is very difficult to obtain a satisfactory examination of the fundus within several days after the attack.

Another condition observed in malarial infection, and one which Sulzer often saw, is an infiltration of the vitreous. In writing of this condition he reports a case in which the patient became totally blind in both eyes within eight days. Finally, however, counting of fingers in close proximity was attained in one eye. In another case which he reports, of a similar nature, the use of quinine and residence for a time in the mountains produced complete recovery.

Poncet, from his studies with the microscope, is of the opinion that in cases of the above character the principal seat of the disease process is in the chorioid: he found here hæmorrhages with cells containing pigment and varicose capillaries. This affection he described as "chorio-retinitis palustris" (Schmidt-Rimpler).

Another case which came under my observation last winter presented a very interesting train of symptoms, and was somewhat similar to the case reported in the article referred to above as appearing in the *New York Medical Journal* of several weeks since.

The gentleman had been sick for several weeks when I was called to see him. Twice during the past ten years he has suffered attacks of a similar nature to the one I was called to see him in, but neither of these attacks was as severe as the last one. The left eye was normal. Examination of the right revealed a marked degree of ptosis, conjunctiva very much congested, pupil dilated, cornea somewhat cloudy, a slight increase in intraocular tension, and vitreous opaque. The pain, which corresponded with the side of the head affected, was very intense. The attack was introduced by supraorbital neuralgia. All the symptoms appeared to become more aggravated at regular intervals, and during these exacerbations fever was always present. The patient was given iron and quinine; gradually the attacks ceased, the ptosis disappeared entirely, and the vision rose to what it was before the attack. After the attack subsided, ophthalmoscopically nothing abnormal was observed in the fundus other than a slight opacity of the vitreous; this, however, was not sufficient to prevent a thorough examination of the fundus.

According to Pennoff, the pupil is always dilated and the papilla hyperæmic during an acute attack of fever. Sulzer also observed in this condition that the retina was apparently covered with a fine mist. Schmidt-Rimpler remarks that according to Sulzer this state produces a certain predisposition to disease of the macula which is induced by the action of reflected sunlight—similarly as it is also caused by direct sunlight. He (Sulzer) observed these affections in a number of soldiers who suffered from febris tertiana and who, while free from fever, made marches in the bright sunlight. The conjunctiva is often injected and even iritis may also occur (Schmidt-Rimpler).

In severe attacks of malarial fever amblyopia is not uncommon. An instance illustrating this fact comes to me from a physician who is at present a patient of mine. He tells me that a patient of his who came from a malarial-infected district—the swamp lands bordering upon the Mississippi—during an attack of malarial fever suddenly became blind, but as soon as sufficient quinine could be absorbed to check the fever the amblyopia was recovered from.

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[*] *Klin. Monatsbl. f. Augenheilkunde*, 1890, p. 250.

[†] De la rétino-chorioidite palustre. *Annales d'oculistique*, vol. lxxix, p. 201, 1878, and quoted by Schmidt-Rimpler.

[‡] *Diseases of the Nervous System*, vol. ii, p. 899.

[#] *Centralbl. f. prakt. Augenheilkunde*, 1879, p. 88.

[||] *Revue d'ophthalmologie*, 1894, p. 385.

Schmidt-Rimpler remarks that retrobulbar neuritis (Uhthoff), optic-nerve atrophy, ptosis (Adelheim), and other muscular paralyses have been observed in intermittent fever; also that inflammatory processes—iritis, irido-chorioiditis, keratitis parenchymatosa, and a peculiar form of keratitis exhibiting radiating ulcers, developed probably from herpes corneæ, designated keratitis dendritica, and described by Van Milligen and Kipp—have been observed as occurring during intermittent fever.

In my case, above reported, the ptosis was especially marked—so much so, in fact, that even partial opening of the eye was impossible.

It is needless to refer to the supraorbital neuralgia of malarial origin. Every physician who has had any experience with malarial infection knows how readily this affection responds to quinine.

Therapeutical Notes.

For the Pruritus of Dentition.—The *Gazette hebdomadaire de médecine et de chirurgie* for September 24th ascribes the following to Besnier:

℞	Hydrochloride of cocaine	¾	grain;
	Bromide of potassium	7½	grains;
	Distilled water	150	"
	Glycerin	150	"

M. For local application.

The Alkaline Dressing for Wounds.—Two French army medical officers, Dr. Augé and Dr. Casteret (*Bulletin de l'Académie de médecine*, August 10th; *Lyon médical*, November 19th), report favorably on sodium bicarbonate as a dressing for suppurating surfaces, stating that it causes the pain and inflammation to subside in a day or two and checks the suppuration. They say it does not in itself exert a germicidal action, but, by virtue of its alkalinity, strengthens the germ-resisting power of the tissues. They use a solution from two to four per cent. in strength, the water having first been boiled.

The Hypodermic Injection of Orthoform and Calomel in Syphilides.—*Riforma medica* for November 14th attributes the following to Daulos:

℞	Vaseline	15	grains;
	Calomel	¾	of a grain;
	Orthoform	120	grains.

M.

For hypodermic injection in syphilides.

The Treatment of Tuberculous Peritonitis.—Dr. Gabriel Maurange (*Gazette hebdomadaire de médecine et de chirurgie*, October 19th) speaks well of lactic acid, especially in children, for the relief of diarrhœa and the stimulation of the appetite. *Adonis vernalis* as a diuretic and antipyrine in small doses for the hectic are lauded by Pribram, together with mercurial frictions. According to the author, creosote is specially indicated in cases where intestinal ulcerations exist, as it favors their cicatrization. But, generally speaking, he thinks that creosote and its derivatives (creosotal, etc.) may be used with advantage in all forms of tuberculous peritonitis. It may be administered hypodermically after Burlureaux's method, avoiding large doses, or according to M. Sevestre's formula:

℞	Glycerin, Rum, } of each	1,500	grains;
	Creosote	60	"

M.

To be taken by teaspoonfuls.

Or it may be combined with hydrochlorophosphate of calcium, or given in wafers, according to M. Kopp's formula:

℞	Creosote, Benzoin, } of each	15	grains;
	Powdered vegetable charcoal	90	"

M.

Divide into ten wafers.

Injections of artificial serum are sternly proscribed by the author as being apt to provoke extension of the tuberculous process.

The Treatment of Epileptic Attacks.—Carrière (*Riforma medica*, November 16th), after recommending the employment of the usual measures and precautions, says that all therapeutic efforts are useless, and that when stertor appears the sleep of the patient should be respected and he should be left to awaken without intervention. But if the aura is repeated and the patient's morbid condition confirmed, he recommends his removal to a darkened, quiet room and the administration of the following clyster:

℞	Sodium sulphate	300	grains;
	Senna leaves	300	"
	Honey of mercurialis	600	"
	Glycerinated water	3,150	"

M.

Note.—Honey of mercurialis occurs in the Swiss, French, and Belgian pharmacopœias. It is made by boiling various proportions of *Mercurialis annua* (a euphorbiaceous plant) in water and adding honey.

Injections for Angeioma.—Blaschko (*Münchener medicinische Wochenschrift*, No. 16, 1899; *Lyon médical*, August 20th) recommends the following formula:

℞	Perchloride of iron, Chloride of zinc, } of each	15	grains;
	Hydrochloride of cocaine	1½	grain;
	Distilled water	150	grains.

M.

From half to a whole Pravaz syringeful to be injected every two or three days.

For Constipation with Scanty and Defective Bile Secretion.—The *Therapist* for November 15th gives the following formula:

℞	Arsenious acid	1	grain;
	Corrosive sublimate	1	"
	Powdered ipecacuanha	2	grains;
	Calomel	16	"

M. Make into fifteen tablets. One or two to be taken daily.

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THE GENERAL PROFESSIONAL WORK OF A LUNATIC ASYLUM.

It may be questioned if in any department of medicine there has been greater improvement of late years than in the management of the insane. Conspicuous among the institutions in which this advance has been displayed are the hospitals maintained by the State of New York. The time is not so far back when, save for the work of an occasional enthusiastic psychiatrist—work in which he too often met with obstruction where he had a right to expect cooperation—the affairs of lunatic asylums were administered like those of petty principalities having practically nothing to do with the rest of the world, and those who had charge of them seemed to have drifted into the intellectual doldrums. But there has been an awakening of which the medical profession may well be proud. Now no stone is left unturned in following up every idea that promises to better the condition of the insane or to throw light on the various forms of mental disease. Without professing to point out any frequent connection between mental alienation and physical disease having its seat elsewhere than in the organ of mind, we may say that physical ailments occurring in the insane ought to receive as much attention as those of the sane. We believe that at the present time they do in our State hospitals and in many others. A notable example is that of the St. Lawrence State Hospital, the twelfth annual report of which has just been published.

The report of the medical superintendent, Dr. William Mabon, shows that the daily average number of patients during the year ending September 30, 1898, was 1,389.66, representing 718.08 men and 671.58 women. Upon these patients surgical operations were performed in sufficient number to show the amount of attention to their physical ailments that we have alluded to. Venesection was performed twice, and lumbar puncture twenty-four times. Perhaps these two procedures were resorted to on some indication intimately connected with the patients' mental condition, but in addition to them there were five operations (radical) for hernia, three for disease of the vermiform appendix, three for phimosis, two each for the removal of hæmorrhoids, for hydrocele (by aspiration), for removal of the tonsils, and for varicocele, and one each of amputation of a toe, of amputation of a finger, of abdominal section for peritonitis, of intestinal anastomosis, of exsection of the sciatic nerve, for deep cellulitis, for hydrocele (by removal of the sac), for abscess of the liver, of iridectomy, of paracentesis of the pleura, of paracentesis of the peritonæum, for perforating ulcer of the foot, for removal of the Falloppian tube and ovary, for strabismus, and for tuberculous disease of the knee. The superintendent tells us that for the most part these operations were performed by members of the hospital staff, but that in a few exceptional instances two of the practitioners of Ogdensburg, Dr. Madill and Dr. Bell, were kind enough to operate. He tells us, too, that Dr. Bell corrected errors of refraction in three hundred of the patints. Furthermore, a dentist visited the hospital every two weeks and had an average of sixteen patients under his care all the time. This leads us to suggest that in the St. Lawrence Hospital and in the other State hospitals it might be well to appoint a dentist on the staff, and let him have at least the benefit of official recognition in return for his services.

Of course, this operative work does not represent the entire non-psychiatric practice of the hospital, but it serves as an index to it. The superintendent's report touches upon several other matters of medical interest concerning which investigations are in progress. The results of those relating to the secretions of epileptics are to be embodied in a report that is soon to be published in the *Archives of Neurology and Psychopathology*. As these researches have been carried on in collaboration with the State Pathological Institute and with other hospitals for the insane, they will doubtless be found to be of great value. The members of the medical staff of the St. Lawrence State Hospital are to be credited with a high degree of that professional enthusiasm which is almost the sole impulse of medical progress.

PRESERVATIVES AND DYES IN ARTICLES OF FOOD.

Along with the fear of deleterious effects from the preservatives and coloring matters that are often added to certain articles designed to be taken into the human stomach, there is in most persons a natural antipathy to "doctored" products, as was shown by the recent outcry about "embalmed beef." And yet it seems that the community itself is in great measure to blame for the practice of adding to articles of food, beverages, preserves, pickles, confectionery, etc., substances intended either to preserve them or to give them an inviting appearance. At least, this appears to be the case in England, if we may judge from some of the testimony lately given before a committee of the Local Government Board as reported in the *Lancet* for November 25th. For example, in the matter of ham and bacon from the United States and Canada it was contended by some of the witnesses representing the Liverpool Provision Trade Association that, if the preservation of such products rested on the use of salt alone, so much of it would have to be used that they would be too salt to suit the popular taste and, moreover, that they would be apt to get slimy; hence the prevalent practice of packing them in borax, which was wiped off when they reached England, not only was harmless, but insured a more acceptable food supply for the people. So, too, in the case of preserved fruit, jams, and the like, it was maintained that the public would not buy them unless they were of a desirable color; in particular, preserved white cherries were unsalable unless they were colored red. We do not think that this particular prejudice concerning the color of preserves prevails here in New York, but it must be admitted, we fear, that our people are set upon having their preserved peas and their pickles of a vivid green.

In spite of the strong statements of one physician as to the complete innocuousness of boric acid taken in daily amounts far in excess of those that would ever be taken into the stomach with preserved food, the medical testimony, so far as the hearing had proceeded, was almost unanimously in favor of prohibiting the use of preservatives, except sugar and salt, especially in milk to be taken by infants, although several of the witnesses were inclined to admit that their addition in not more than the required quantity would be harmless, except in the case of milk for children. A general feeling was evinced that all products to which chemicals had been added should bear a label informing the purchaser of such addition, but it was not generally insisted upon that the label should show the amount of preservative contained in the product; the New York and Pennsylvania requirement that the mere fact of chemical preservation should be stated seemed to be all that most of the witnesses would urge, and the trade representatives declared themselves quite ready to conform to such a regulation.

It may be unwise to decree the absolute prohibition of chemical preservation and coloring, but there can be no doubt that the use of chemicals and dyes ought to be regulated quite sharply. It was pointed out by some of the witnesses at this hearing that the preservative used was sometimes simply thrown into a mass of the food, and not properly mixed with it, whereas the desirability of its equable diffusion was too evident to be questioned. It was further suggested that a workman in a preserve factory, for instance, was apt to be careless about the ordinary precautions to be observed in the art of preserving if he knew that his shortcomings were to be rectified by the use of a chemical, and the result of his carelessness might be an inferior product quite independently of the fact of chemical preservation. These points seem to us well taken, and we have no hesitation in declaring that the employment of chemical preservatives and dyes should be regulated most stringently.

THE PREVENTION OF DENTAL CARIES.

THERE is an impression prevalent in European countries that Americans are peculiarly liable to early decay of the teeth. We have long been of the opinion that the notion had no firmer foundation than the fact that a great amount of dentistry was done in the United States, a fact due to the attention paid by most of our people to the care of their teeth and to the excellence of our dentists. It has now been made plain that in one other country, Great Britain, early decay of the teeth takes place with such frequency as to have led a careful and competent observer, James Cantlie, M. B., F. R. C. S., to present the subject with great seriousness before the Section of State Medicine of the British Medical Association (*British Medical Journal*, September 2d), and, after the discussion that followed, to propose a resolution to the effect that, in view of the early decay of the teeth prevalent in Great Britain, the council of the association be requested to appoint a committee of not fewer than three persons to inquire into the subject and to report upon it to the council in twelve months from the date of their appointment. The resolution was carried unanimously.

In his paper Mr. Cantlie recognized the excellence of the art of dentistry as practised in his own country and in America, saying that, so far as mechanism was concerned, there was little more to be done. But he expressed the wish that the dentists should "look a little further afield," and tell how to rear a child so that the teeth while yet within the dental sacs, before their eruption, might be allowed to grow to the greatest perfection. "If," he said, "dentistry is to aspire to its highest ideal, it must not be content with merely repairing or removing damage done"; it must tell us the reasons of the early decay of children's teeth and show us how to prevent it. Mr. Cantlie mentions two theories only to dismiss them as unworthy of serious consideration. One is that of the preponderant early development of the brain in the present generation, whereby the teeth have been thought to be robbed of a good part of the nutrient material that should go to them; the other is that the jaws do not now reach their proper growth, so that there is not room for perfect dental arches and the teeth are crowded together and thrown into such irregularity of arrangement as to afford many a lurking place for decaying matter. The first of these theories perhaps has little to sustain it; it is fanciful or at best only plausible. The second, we are inclined to think, is more entitled to weight. At all events, we think Mr. Cantlie is in error in dismissing such a theory on the ground that the changes mentioned are assumed to have taken place in our own generation, an assumption "contrary to natural law." We do not understand that anything of the sort is assumed, and we question if it can be shown that, as Mr. Cantlie says, "the generation immediately before us had fairly good teeth and well-shaped jaws."

The November number of the *Dental Cosmos* has a strong editorial article entitled Tooth Caries and Public Health, which gives the gist of Mr. Cantlie's argument and points out some of its defects, among others that of ignoring bacterial influence in producing dental caries. The writer professes the complete readiness of dentists to give information as to the prevention of premature decay of the teeth, if only they possessed it. They are still in quest of that information, just as we are seeking for the prevention of cancer, for example; when they have found it they will give it to the world, for they, like all other workers in medicine, have constantly in mind the prevention of disease.

REMOVAL OF THE ACCESSORY THYREOID GLANDS.

The functional sufficiency of a comparatively small portion of a system of organs is a striking illustration of the perfection of the organism. Perhaps it is nowhere better exemplified than in the case of the accessory thyreoid glands. Dr. Capobianco and Dr. Mazziotti, of Naples (*Giornale internazionale delle scienze mediche*, 1899, Nos. 8 and 9; *Centralblatt für innere Medicin*, November 18th), find that, if only one of the four glands is left in the operation of parathyreoidectomy, the fatal result that follows the removal of all of them is prevented.

DEAFNESS DUE TO MUMPS.

In our issue for September 9th we gave a brief *résumé* of an article on this subject that had appeared in the *Gazette des hôpitaux*. Our article ended as follows: "The pathogeny remains obscure, but most authors think there is a sanguineous effusion into the labyrinth. Treatment is of no avail as regards the power of hearing, but the vertigo may be mitigated by means of quinine." Dr. Edmund D. Spear, of Boston, takes a more favorable view. He calls our attention to an article of his published in Burnett's *System of Otology, Rhinology*, etc., in 1893, in which he spoke of the importance of recognizing deafness as a sequela of mumps, and suggested the attempt to cut the disease short by rest in bed and the subcutaneous use of pilocarpine. With this drug, he says, many cases of effusion into the labyrinth have been cured. He intimates that its use in mumps would lead to earlier resolution and tend to prevent complications.

MAJOR-GENERAL WOOD.

The medical profession will receive with the greatest satisfaction the news that General Leonard Wood, who began his military career in the medical corps of the army, has been made a major-general of volunteers and also appointed military governor of Cuba.

THE DISTRICT OF COLUMBIA ANTIVIVISECTION BILL.

We learn that Senator Gallinger's bill purporting to "regulate" experiments on animals in the District of Columbia has been introduced again. That being the case, it behooves physicians throughout the country to bestir themselves in opposition to a proposed measure which, if it became a law, would put practically unlimited power for evil into the hands of persons inimical to a most important means of prosecuting medical research.

THE ACADEMY OF MEDICINE'S PORTRAIT OF DR. METCALFE

The correspondence between Dr. T. Gaillard Thomas and the president of the New York Academy of Medicine, published elsewhere in this issue, relates to a most graceful act on the part of Dr. Thomas, that of presenting to the academy a portrait of Dr. John T. Metcalfe, who for many years was recognized as one of the ablest of New York physicians. He has now retired from practice and is living, we understand, at Cold Spring on the Hudson.

BILE AS A NEUTRALIZER OF RABIETIC VIRUS.

It seems that among the manifold properties of the bile is that of neutralizing the virus of rabies. M. Vallée (*Annales de l'Institut Pasteur*, June; *Centralblatt für innere Medicin*, December 2d) finds that the inoculation of animals with a mixture of equal parts of the virus and the bile of a rabbit that has died of rabies, or that of a healthy rabbit, does not kill them, but it confers on them no immunity.

TETANY ATTRIBUTED TO EXPOSURE TO THE SUN.

In the *British Medical Journal* for November 25th Herbert Fox, M. B., reports a case of tetany which he could not attribute to any other cause than exposure to the sun, an ætiological factor which, as he remarks, is at least unusual.

THE MODERN MASTERY OF DIPHTHERIA.

The superiority of our present means of treating diphtheria has seldom been more forcibly illustrated than in a case reported by J. A. R. Smith, M. B., of the Melbourne Hospital, in the October number of the *In-*

tercolonial Medical Journal of Australasia. Intubation was employed and accomplished all that could have been expected of it, but there was such an extensive bronchial exudate that tracheotomy was required for its removal. A photograph of the cast shows that it extended well into the lungs, and, with the tendency to fresh exudation present, it is doubtful if the patient would have been saved after all, but for the use of antitoxine, which was given by the intravenous method.

THE EARWIG.

THERE seems to be some justification for this as the popular name of the insect *Forficula auricularis* (not the little centipede so called in the United States), as was remarked by M. Pautet (*Lyon médical*, November 26th) recently when he showed at a meeting of the Lyons Society of the Medical Sciences a specimen of it that he had removed from the external auditory canal. It had not perforated the membrana tympani.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending December 11, 1899:

DISEASES.	Week ending Dec. 2.		Week ending Dec. 11.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	53	19	66	20
Scarlet fever	149	7	138	6
Cerebro-spinal meningitis	0	3	0	4
Measles	275	11	307	11
Diphtheria	260	41	255	40
Croup	7	13	15	10
Tuberculosis	199	134	144	138
Chicken-pox	21	0	20	0

The Canadian Medical Association.—The following appointments of committees are announced: A committee having charge of the preparation of suggestions for a Canadian addendum to the new *British Pharmacopœia,* Dr. T. D. Reed, Dr. A. D. Blackader, Dr. J. G. Adami, Dr. R. Wilson, Dr. H. Hervieux, and Dr. A. D. Bazin, of Montreal; Dr. A. Marois, of Quebec; Dr. H. B. Small, of Ottawa; Dr. J. M. MacCallum and Dr. J. T. Fotheringham, of Toronto; Mr. J. E. Morrison, Mr. T. E. W. Lecours, Mr. W. H. Chapman, and Mr. A. Robert, together with the president and the general secretary. A committee to consider and report upon the best means of dealing with the consumptive poor, Dr. P. H. Bryce, Dr. W. Oldright, and Dr. E. J. Barrick, of Toronto; Dr. R. W. Powell, of Ottawa; Dr. J. A. Williams, of Ingersoll; Dr. J. G. Adami and Dr. H. A. Lafleur, of Montreal; Dr. J. D. Lafferty, of Calgary; and Dr. H. H. Chown, of Winnipeg. Publishing committee, Dr. A. D. Blackader, of Montreal; Dr. H. B. Small, of Ottawa; and Dr. J. L. Davison, Dr. W. A. Young, and the general secretary (Dr. F. N. G. Starr), of Toronto.

The Eastern Medical Society of the City of New York.—At the annual meeting, on Friday evening, the 8th inst., the following officers were elected for the ensuing year: President, Dr. Abram Brothers; vice-presidents, Dr. J. Guttman and Dr. A. Hymanson; secretary, Dr. R. Abrahams; treasurer, Dr. J. Barsky; chairman of the committee on ways and means, Dr. H. Siff; chairman of the committee on ethics, Dr. E. K. Browd; trustees, Dr. H. Illoway, Dr. L. J. Ladinski, and Dr. H. Levien; committee on admission, Dr. S. Mosseson, Dr. R. Hochlerner, Dr. M. Girsdansky, Dr. C. Goodman, and Dr. George I. Miller.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending December 8, 1899:

Small-pox—United States.

San Francisco, Cal	Nov. 23	3 cases in Forty-eighth Regiment, U. S. Volunteers.	
Washington, D. C	Nov. 25–Dec. 2	2 cases.	
Dixon, Ill	Dec. 3	125 “	
New Orleans, La	Nov. 25–Dec. 2	2 “	
Shreveport, La	Nov. 25–Dec. 2	1 case.	
Chelsea, Mass	Nov. 25–Dec. 2	3 cases.	
Six places in Michigan	Nov. 25	Reported.	
New York, N. Y	Nov. 25–Dec. 2	2 cases.	
Cleveland, Ohio	Nov. 17–Dec. 2	1 case,	1 death.
Portsmouth, Va	Nov. 25–Dec. 2	3 cases,	1 “

Small-pox—Foreign.

Ghent, Belgium	Nov. 4–18		3 deaths.
Rio de Janeiro, Brazil	Oct. 22–Nov. 3	200 cases,	123 “
London, England	Nov. 11–18	1 case.	
Bombay, India	Oct. 23–Nov. 7		7 “
Madras, India	Oct. 28–Nov. 3		1 death.
Mexico, Mexico	Nov. 12–19	1 case,	1 “
Moscow, Russia	Oct. 28–Nov. 4	1 “	1 “
St. Petersburg, Russia	Nov. 4–11	9 cases,	5 deaths.
Warsaw, Russia	Nov. 4–11		9 “

Yellow Fever—United States.

New Orleans, La	Nov. 25–Dec. 2	1 case.	

Yellow Fever—Foreign.

Rio de Janeiro, Brazil	Oct. 23–Nov. 4	6 cases,	3 deaths.
Havana, Cuba	Nov. 22–29	11 “	8 “
Santiago de Cuba, Cuba	Nov. 15–22	1 case.	

Cholera.

Bombay, India	Oct. 23–Nov. 7		2 deaths.
Calcutta, India	Oct. 1–21		33 “

Plague—Foreign.

Trieste, Austria	Nov. 4		1 death (sailor on Ottoman Liner *Polis Mytilini*).
Bombay, India	Oct. 23–Nov. 7		165 deaths.
Calcutta, India	Oct. 1–21		134 “
Kurrachee, India	Oct. 22–Nov. 4	3 cases,	6 “
Asuncion, Paraguay	Oct. 7–24		10 “

The Medical Society of the State of New York.—The president, Dr. Willis G. MacDonald, has appointed the following business committee, to which all communications concerning papers to be presented at the next annual meeting, on January 30, 1900, to February 1, 1900, should be sent: Dr. Wendell C. Phillips, No. 350 Madison Avenue, New York; Dr. Henry L. Elsner, Fayette Park, Syracuse, New York; and Dr. Chauncey P. Biggs, No. 17 East Street, Ithaca, New York.

The Buffalo Academy of Medicine.—At the last quarterly meeting, on Tuesday evening, the 5th inst., it was decided to establish a section for the study of diseases of the eye, ear, nose, and throat. On Monday evening, the 11th inst., a meeting was held for the purpose of electing officers and arranging a programme for the ensuing year. On Tuesday evening, the 12th inst., there was a general discussion on personal experience with new drugs, and Dr. Allen A. Jones read a paper on The Relation of Indicanuria to Secretion of Hydrochloric Acid.

The St. Louis Medical Society.—At the last regular meeting, on Saturday evening, the 9th inst., the subject for discussion was a paper by Dr. C. Shattinger, entitled A Demonstration of Cephalometry.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 2 to December 9, 1899:*

DE WITT, CALVIN, Lieutenant-Colonel and Deputy Surgeon-General, will proceed by the first available commercial steamer sailing from New York to Havana, if one sails before a transport.

LAWRASON, GEORGE B., Acting Assistant Surgeon, United States Army, will proceed to San Francisco for duty.

RAYMOND, HENRY I., Major and Surgeon, United States Volunteers. The sick leave of absence granted him is extended one month.

WILCOX, TIMOTHY E., Major and Surgeon, United States Army, is detailed as a member of the examining board convened at the Army Building, New York city, *vice* WATERHOUSE, SAMUEL M., First Lieutenant and Assistant Surgeon, relieved.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending December 9, 1899:*

CARPENTER, D. N., Assistant Surgeon. Ordered to the Boston Navy Yard.

DUNBAR, A. W., Passed Assistant Surgeon. Detached from the *Resolute* and ordered home to await orders.

GARTON, W. M., Assistant Surgeon. Detached from the Washington Navy Yard and ordered to the *New York*.

MCCLANAHAN, R. K., Assistant Surgeon. Ordered to the Washington Navy Yard.

Promotions.

DICKINSON, D. Promoted to medical director.

HARMON, G. E. H. Promoted to medical inspector.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending December 7, 1899:*

MEAD, F. W., Surgeon. Granted leave of absence for one day.

MAGRUDER, G. M., Surgeon. To proceed to New York and report to Surgeon L. L. WILLIAMS (Immigration Depot) for special temporary duty. To proceed to London, England, for duty.

PERRY, T. B., Passed Assistant Surgeon. Relieved from duty at New York and directed to proceed to Baltimore for duty and assignment to quarters.

WERTENBAKER, C. P., Passed Assistant Surgeon. To rejoin station at Wilmington, North Carolina.

SMITH, A. C., Passed Assistant Surgeon. To proceed to New York and report to Surgeon L. L. WILLIAMS (Immigration Depot) for special temporary duty. To proceed to Hamburg, Germany, for duty.

BLUE, RUPERT, Passed Assistant Surgeon. To proceed to Genoa, Italy, for duty.

SPRAGUE, E. K., Passed Assistant Surgeon. To proceed to Antwerp, Belgium, for duty.

GREENE, J. B., Passed Assistant Surgeon. Relieved from duty at Boston and directed to proceed to New York and report to Surgeon L. L. WILLIAMS (Immigration Depot) for special temporary duty.

TABB, S. R., Assistant Surgeon. To proceed to Savannah Quarantine Station (Georgia) for temporary duty.

GRUBBS, S. B., Assistant Surgeon. To proceed to New York and report to Surgeon L. L. WILLIAMS (Immigration Depot) for special temporary duty. To proceed to Havre, France, for duty.

HOBDY, W. C., Assistant Surgeon. To report at Washington for special temporary duty and then to rejoin station at New York. Relieved from duty at New York (Stapleton) and directed to report to Surgeon L. L. WILLIAMS (Immigration Depot) for special temporary duty. To proceed to Southampton, England, for duty.

CORPUT, G. M., Assistant Surgeon. Upon being relieved from duty at Baltimore to report at Washington for special temporary duty; then to proceed to New York, reporting to Surgeon L. L. WILLIAMS (Immigration Depot) for special temporary duty.

THORNBURY, F. J., Assistant Surgeon. Relieved from duty at San Francisco and directed to proceed to the San Francisco Quarantine Station for duty.

GOLDSBOROUGH, B. W., Acting Assistant Surgeon. Granted leave of absence for two days.

Society Meetings for the Coming Week:

MONDAY, *December 18th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Hartford, Connecticut, Medical Society; Chicago Medical Society.

TUESDAY, *December 19th:* New York Academy of Medicine (Section in General Medicine); Buffalo Academy of Medicine (Section in Pathology); Ogdensburgh, New York, Medical Association; Syracuse, New York, Academy of Medicine; Medical Society of the County of Kings, New York; Baltimore Academy of Medicine.

WEDNESDAY, *December 20th:* Medico-legal Society, New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark).

THURSDAY, *December 21st:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Massachusetts, Society for Medical Improvement (private); Medical Society of City Hospital Alumni, St. Louis; Atlanta Society of Medicine.

FRIDAY, *December 22d:* New York Clinical Society (private); New York Society of German Physicians; Yorkville Medical Association, New York (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *December 23d:* New York Medical and Surgical Society (private).

Births, Marriages, and Deaths.

Married.

ARCHINARD—VIENNE.—In New Orleans, on Tuesday, December 12th, Dr. John J. Archinard and Miss Madeleine Vienne.

FURMAN — HENDRICKSON. — In Bay Shore, Long Island, on Thursday, December 7th, Dr. Isaac Furman and Miss Laura B. Hendrickson.

Nicoll—Wing.—In New York, on Thursday, December 7th, Dr. Matthias Nicoll, Jr., and Miss Alice Maude Wing.

Nutt—Paulson.—In New York, on Saturday, December 2d, Dr. John J. Nutt and Miss Blanche P. Paulson.

Rose — Eddy.—In Providence, Rhode Island, on Wednesday, December 6th, Dr. Alanson D. Rose and Miss Helen M. Eddy.

Sawyer—Billups.—In Norfolk, Virginia, on Tuesday, December 12th, Dr. William Sawyer and Miss Annie Billups.

Wallace—Denton.—In Freeport, Long Island, on Sunday, December 10th, Mr. Archer B. Wallace and Miss Nettie Denton, daughter of Dr. John H. B. Denton.

Wickens—Gibson.—In Buffalo, on Wednesday, December 6th, Dr. Vallance A. Wickens, of Rochester, New York, and Miss Margaret Ethel Gibson.

Died.

Armstrong.—In Manila, Philippine Islands, on Monday, December 4th, Dr. Frank C. Armstrong, United States Volunteers.

Carlisle.—In New York, on Friday, December 8th, Dr. Stuart B. Carlisle, of Mount Vernon, New York, in the fifty-first year of his age.

Conrad.—In Washington, on Saturday, November 11th, the infant son of Dr. Charles Conrad, United States Navy.

Kenyon.—In Riverpoint, Rhode Island, on Sunday, December 3d, Dr. Napoleon B. Kenyon, in the sixtieth year of his age.

Mann.—In Brooklyn, on Thursday, December 7th, Mary Carolyn Mann, wife of Dr. Delos H. Mann.

Letters to the Editor.

THE SENSE OF PREVIOUS EXISTENCE.

27 West One Hundred and Fifteenth Street,
December 4, 1899.

To the Editor of the New York Medical Journal:

Sir: In the *New York Medical Journal* of November 11th Dr. Ellis brings up the interesting subject of what Scott calls "a strange sense of preexistence." I can not agree with the doctor that this is a mental condition "seldom if ever described in medical literature." First, in what is not strictly speaking medical literature, Dr. Oliver Wendell Holmes, in the *Atlantic Monthly* for 1857, and afterward, in 1882, in the *Autocrat of the Breakfast Table,* writes: "All at once a conviction flashes through us that we have been in the same precise circumstances as at the present instant, once or many times before." He then goes on to give explanations of this phenomenon, the best being "that the coincidence of circumstances is very partial, but that we take this partial resemblance for identity, as we occasionally do resemblances of persons. The apparent similarity may be owing perhaps quite as much to *the mental state at the time* as to the outward circumstances."

Professor James, in his *Principles of Psychology,* in the chapter on Memory, writes: "There is a curious experience which every one seems to have had—the feeling that the present moment in its completeness has been experienced before—we were saying just this thing, in just this place, to just these people, etc. This 'sense of preexistence' has been treated as a great mystery and occasioned much speculation. I must confess that the quality of mystery seems to me a little strained. I have over and over again in my own case succeeded in resolving the phenomenon into a case of memory, so indistinct that, while some past circumstances are presented again, the others are not. The dissimilar portions of the past do not arise completely enough at first for the date to be identified. All we get is the present scene with a general suggestion of pastness about it. It is noteworthy that just as soon as the past context grows complete and distinct the emotion of weirdness fades from the experience."

Second, in medical literature proper, Professor Krafft-Ebing, in his work on *Neurasthenia* in Nothnagel's *Pathologie und Therapie,* writes (I translate literally): "Cases in which errors of memory (paramnesia) occur are not rare, and are caused by indistinctness of the memory pictures, together with those of perception. A present situation is identified with one already passed. The doubt as to the identity causes an unpleasant sensation of uncertainty." I have no doubt that similar passages will be found in all recent works on neurasthenia.

If Dr. Ellis will inquire among his professional colleagues who have a nervous tendency, he will probably find many who have experienced this sensation. Brain exhaustion and muscular exhaustion are probably two very different conditions. However, for the purpose of illustration the two may be compared. As an exhausted muscle is unable to distinguish between two weights which in its normal condition it would have no difficulty in doing, so the exhausted brain does not see the points of difference where a resemblance exists.

C. Herrman, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS.

By ARTHUR N. TAYLOR, LL. B.

XLIX.

PRIVILEGED COMMUNICATIONS.

(Continued from page 863.)

Waiver.—We have just seen that the privilege is a right belonging to the patient; therefore the patient is capable of waiving this privilege, and permitting or, if necessary, compelling his physician to testify regarding matters of professional confidence between them; and this is the law even in States where, by the wording of the statute, the physician is *incompetent* to disclose information obtained in the course of his professional employment.*

The waiver need not always be express, but may be implied from the acts or, under some circumstances, from the silence of the patient; but to determine whether or not the conduct of the patient in a particular case amounts to a waiver is often a very difficult matter.

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* Davenport *vs.* Hannibal (Mo.), 18 S. W. Rep., 1120.

The patient, by calling his physician to testify, waives the privilege.[*] Also, the patient's attorney waives for him when he calls the physician as a witness and states that as the patient's attorney he waives the privilege of the statute.[†] It is also held that a patient, by permitting a physician to testify regarding privileged matters, either as his own or his opponent's witness, waives the privilege.[‡] It is advisable to state, however, in this regard that a physician, whenever placed upon the witness stand by another than his patient, for the purpose of disclosing privileged matter between himself and that patient, should, in justice to that patient, inform the court that the matter he is asked to divulge was learned by him in the course of his professional attendance, and that he desires to submit the question to the court whether he may, consistently with the confidence reposed in him by the patient and with his own professional integrity, disclose such confidential matter. A case similar to the one supposed, in which the physician disclosed matter that should have been carefully guarded, went to the supreme court of Michigan several years ago, and Justice Conley, in delivering the opinion of the court, took the opportunity to censure both the physician and the commissioner who permitted the evidence to be received, in the following words: "Every reputable physician must know of the existence of this statute (protecting confidential communications); and he must know from its very terms, as well as from the obvious reasons underlying it, that it is not at his option to disclose professional secrets. A rule is prescribed which he is not to be 'allowed' to violate; a privilege is guarded which does not belong to him, but to his patient, and which continues indefinitely, and can be waived by no one but the patient himself. What was done in this case may have been thoughtlessly done; but if a physician is found disposed to violate both the law of the land and the precepts of professional ethics by making such a disclosure, and if counsel invite him to do so by their questions, the commissioner, in the case of so plain a disregard of the law to the prejudice of a third party, may well decline to be an instrument of the wrong."[#]

In case of a criminal prosecution instituted by the patient, who is prosecuting witness, he will be deemed to have waived his privilege, and the physician who attended the patient for the injuries inflicted by the accused will be properly permitted to testify. Thus, in a rape case where the criminal act was committed upon a child, and the prosecution was inaugurated by the child's parents, and the child and her mother testified at the trial regarding the criminal act and the injuries thereby inflicted, the supreme court of Nevada was of the opinion that the parents by their conduct showed a desire to waive the protection of the statute, and that the physician's evidence was therefore properly admitted.[‖]

But whether or not the patient, by taking the witness stand in a civil suit and testifying regarding his health, waives his privilege of objecting to the evidence of his physician as to the condition of his health at the time referred to in his testimony is a question upon which the decisions are not in harmony. It has been observed that in several States the statute extending the privilege to the patient expressly provides that when the patient voluntarily testifies he will be deemed to consent to the examination of his physician.[*] In States having such a statute there can be no doubt that the patient, by testifying concerning matter within the knowledge of his physicians, in law authorizes them to make a full disclosure relative thereto, but whether his testifying will have such effect in other States is seriously doubted. In the court of common pleas of New York, however, Justice Pryor held that the plaintiff, who testified minutely and circumstantially to the effect of a blow upon her physical condition, and disclosed to the jury without reservation all the ill consequences of the injury to her health and comfort, thereby waived the privilege of objecting to the evidence of the physician who had attended her for the particular injuries.[†] Almost contemporaneous with this case is one from the supreme court of Iowa, in which the plaintiff testified minutely regarding the health she enjoyed previous to the accident upon which the suit was based, in such a way as to justify the belief that she was an unusually vigorous and healthy woman. The defendant then offered the evidence of the physician who had attended the patient occasionally during the time referred to in her testimony, but the court denied that the plaintiff by her evidence had waived her privilege of objecting to the disclosure proposed,[‡] and therefore refused to permit the physician to testify. The authorities seem to be uniform upon the proposition that where a patient at the trial testifies regarding his condition at a certain time physicians who attended him at another time than that covered in his testimony can not be permitted to testify regarding the patient's condition at such other time contrary to his objection. In the case of Butler *vs.* Manhattan Railway Company, the plaintiff, who was pregnant, upon attempting to board a car upon the elevated railroad, was struck a severe blow in the side by the iron gate as it was forcibly closed by the brakeman, producing a miscarriage. At the trial the plaintiff testified regarding her physical condition subsequent to the accident, whereupon the defendant attempted to prove by the physicians who had attended the patient previous to the accident what her condition was during that period, but the court refused to permit the disclosure offered.[#]

It also seems well settled that when a patient is attended by several different physicians at different periods, and he calls one physician to testify to his condition during the period in which that physician treated him, he does not thereby waive his privilege as to the other physicians.[‖] Thus, where the patient, who had been injured in a railway accident, first employed Dr. A., but before recovering discharged him and employed Dr. B., it was held that by calling Dr. B. to testify regarding his condition he did not waive his privilege as to Dr. A., and that Dr. A. could not be placed upon the witness stand by the defendant to testify, contrary to the patient's objection, to facts learned while attending him professionally.[*] And so, when a patient called physicians to testify to his condition previous and subsequent to a certain period, he did not thereby waive his privilege to object to the evidence of another physician, who had attended him during the intervening period, regarding his physical condition during such intervening period.[†] But when two or more physicians attend a patient at the same time the question of whether, by calling one of them to disclose his condition, he waives his privilege as to the others is one upon which the decisions are conflicting. The court of appeals of New York holds that by such an act he does waive his privilege of objecting to the evidence of the others. The court says: "We think that a construction of the statute which permits a patient who has been attended by two physicians at the same examination or consultation to call one of them as a witness to prove what took place or what he learned, thus making public the whole interview, and still retain the right to object to the other, is unreasonable and unjust, and should not be followed. The waiver is complete as to that consultation when one of them is used as a witness."[‡] Upon the other hand, the supreme court of Iowa in a recent case held that a patient, by placing on the stand one of several physicians who had attended her, presumably at the same time, did not waive her right of objecting to the evidence of the others as privileged.[#]

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[*] Carrington *vs.* St. Louis, 89 Mo., 208; Squires *vs.* City of Chillicothe, 89 Mo., 226.

[†] Albertie *vs.* N. Y., S. E., and W. Ry. Co., 118 N. Y., 77, 23 N. E. Rep., 77.

[‡] Hoyt *vs.* Hoyt, 112 N. Y., 493; Lincoln *vs.* City of Detroit, 101 Mich., 245, 59 N. W. Rep., 617; Wheelock *vs.* Godfrey, 100 Cal., 578.

[#] Storrs *vs.* Scongale, 48 Mich., 388.

[‖] State *vs.* Depositu, 21 Nev., 107, 25 Pac. Rep., 1,000.

[*] The statutes contain such a clause in Kansas, Ohio, Oklahoma, and Wyoming.

[†] Treanor *vs.* Manhattan Ry. Co., 28 Abb. N. C., 47.

[‡] McConnell *vs.* City of Osage, 80 Ia., 293, 45 N. W. Rep., 550.

[#] Butler *vs.* Manhattan Ry. Co., 23 N. Y. Supp., 163.

[‖] Hope *vs.* Troy and Lansingburg Ry. Co., 40 Hun, 338.

The question of whether the privilege, having once been waived in a given case, may ever again be asserted, is also one in which there is conflict of authority. In the case of Grattan *vs.* Insurance Company,[||] the New York court of appeals held that a party having waived the privilege at one trial could claim it upon a new trial of the same case; but the same court, in the case of McKinney *vs.* Grand Street, etc., Railroad Company,[△] decided four years later that the patient having once consented to the disclosure of privileged information could never again assert his privilege regarding the subject of his former waiver. The supreme court of Michigan, in a late case,[◊] in passing upon practically the same case, reviewed the decisions of the New York court and, after expressing its preference of the rule laid down in the Grattan case, held that a privilege having been waived at one trial might be asserted at a new trial of the same case.

That a patient fully and completely waives all privilege as to matters connected with the physician's treatment of him when he sues the physician for alleged malpractice in such treatment can not be justly doubted. "To establish a contrary rule," said Justice Gavin, "would be most manifestly unfair."[‡] But a rule of similar justice does not prevail where a physician sues a patient to recover for the value of his professional services, and the patient interposes an answer containing a general denial. In such a case the patient does not waive his privilege, and the physician may not testify as to any information protected by the statute.[*] He may, however, testify that he is the family physician, and that he attended the patient, giving the dates and number of such visits made, and mentioning the examinations, prescriptions, and operations, but he may not describe them if the patient objects.[†]

(*To be continued.*)

Pith of Current Literature.

Ichthyol in Corneal Ulcers.—Dr. B. F. Travis (*Medical Herald*, November) says that his attention was called to the use of ichthyol in ophthalmological work about eighteen months ago in an extract from a paper written by a French writer, who had used it, and was advocating it as a remedy for trachoma. He at once applied it according to that writer's method in an old case of trachoma in which there were corneal ulcers and pannus. The improvement in the ulcers was so marked that he decided to test its merits as a remedy for corneal ulcers, regardless of their cause, and he has used it in a great many cases, some of them very severe, and his results have been phenomenal. After experimenting with the drug in different strengths he now applies about a thirty-per-cent. solution, diluted with glycerin and distilled water, ordering weaker solutions for home use. Ichthyol, he says, has no bad effect upon healthy epithelium, even in the stronger solutions. It is very painful for about one minute, but the instillation of a one-per-cent. solution of holocaine a few minutes before the application of ichthyol is made renders it much more comfortable to the patients. The author prefers holocaine from the fact that it is itself an antiseptic and is not contraindicated in corneal ulcers as is cocaine.

Among the great number of local remedies in use, ichthyol has given the best results in the writer's hands. Atropine is used for its anodyne effect and because it lessens the liability to iritis. Eserine is indicated instead of atropine in small, sluggish ulcers unattended by active symptoms, or in cases of deep ulcers near the margin of the cornea. In strumous cases the usual constitutional should be also employed.

The Relation of Leucocytosis to Appendicular Inflammation.—Dr. Maurice Richardson (*American Journal of the Medical Sciences*, December), in a general paper on appendicitis, says that from a hundred cases of appendicitis at the Massachusetts General Hospital Dr. R. B. Greenough has drawn the following conclusions in regard to the relation of leucocytosis to appendicitis. The paper is to be published later by Dr. Greenough: 1. Leucocytosis may be considered to be a fairly constant symptom of appendicitis. 2. The presence or absence of leucocytosis, or the degree of leucocytosis, without other data, is not sufficient to determine the local condition of the appendix and its surroundings. 3. In a series of cases the degree of leucocytosis corresponds roughly with the degree of temperature, but in individual cases great variations are found. 4. The degree of leucocytosis, when considered in connection with the duration of the attack, is of considerable assistance in the diagnosis of the local condition. 5. A high leucocytosis (above twenty thousand) on the first or second day of disease suggests general peritonitis. 6. A low blood count (below ten thousand) after the first week, if accompanied by severe symptoms, indicates general peritonitis, and is of grave prognostic significance; but if accompanied by mild symptoms, denotes a mild catarrhal process or well walled-off abscess which has become subacute in character. 7. A high leucocytosis (above twenty thousand) after the first week or ten days may be taken to indicate a local abscess.

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[*] Mellor *vs.* The Mo. Pac. Ry. Co., 105 Mo., 455.

[†] Baker *vs.* Cunard Steamship Co., 91 Hun, 495, 36 N. Y. Supp., 256.

[‡] Morris *vs.* N. Y., O., and W. Ry. Co., 148 N. Y., 88, 42 N. E. Rep., 410.

[#] Baxter *vs.* City of Cedar Rapids, 103 Ia., 599, 72 N. W. Rep., 790.

[||] Grattan *vs.* Insurance Co., 92 N. Y., 274.

[△] McKinney *vs.* Grand St., etc., R. R. Co., 104 N. Y., 352, 10 N. E. Rep., 544.

[◊] Briesenmeister *vs.* K. of P., 81 Mich., 525.

[‡] Becknell *vs.* Hosier, 10 Ind. App., 5, 37 N. E. Rep., 580.

[*] Van Allen *vs.* Gordon, 83 Hun, 379.

[†] Van Allen *vs.* Gordon, *supra;* Briesenmeister *vs.* K. of P., 81 Mich., 525.

Hygienic Treatment of Nocturnal Enuresis.—Stumpf (*Bulletin de thérapeutique*, November; *Lyon médical*, November 26th) recommends that the child should sleep with the head lower than the pelvis, thus creating a mechanical obstacle to the passage of the urine, which no longer irritates the urethral sphincter. Stumpf had treated successfully twelve children and an adult by this method, which has also proved efficacious in two rebellious cases at the Institute for Deaf-Mutes at Wurzburg. The duration of the treatment is about three weeks, after which the normal position may be resumed.

Tumor of the Pituitary Body.—Dr. G. L. Walton and Dr. F. E. Cheney (*Boston Medical and Surgical Journal*, December 7th), in a paper on this subject, arrive at the following conclusions: 1. Congenital peculiarities in growth resembling those of acromegaly, but occurring in otherwise healthy individuals, may point to structural defect of the pituitary gland, a defect sometimes furnishing the starting-point for a new growth later in life. 2. The occurrence of pituitary tumor without definite symptoms of acromegaly does not necessarily disprove a connection between this organ and this disease, for the persistence of even a small amount of healthy gland tissue is sufficient fairly to carry on the function of the pituitary body. 3. The combination of general symptoms of new growth with optic atrophy and loss of temporal field of vision makes the diagnosis of pituitary tumor almost certain. 4. Hemiachromatopsia is not necessarily of central origin.

The Difference in Labor between Savage and Civilized Women.—Dr. Archdall Reid (*British Medical Journal*, October 14th) thinks that the difference between savage and civilized women, as regards labor, may be explained in a manner which seems feasible, and is at any rate in accordance with modern theories of heredity. We know that, while children tend to inherit the peculiarities of their parents, they tend also to vary somewhat from them. Thus, for example, big or fair people tend as a rule to have big or fair children; but each child, generally speaking, is bigger or smaller, fairer or darker, than the parent. It follows that women with large or small pelves tend to have daughters with a like peculiarity also; and that people, who at birth had large or small heads, tend to transmit this peculiarity also. Now savage women, generally speaking, have large pelves, and bear children with small heads, hence the ease of their labors. When, however, a savage woman varies from her parent in such a manner as to have a small pelvis or to bear a large-headed child, her life is endangered. A really difficult labor requiring surgical aid of course to her means death. Among the lowest nomadic savages, a labor even as difficult as is normal among civilized races would be fatal. The race is thus strictly purged, generation after generation, of all narrow hips and large heads, and the right proportion between head and pelvis is from age to age secured.

But with the rise in civilization greater care is bestowed on lying-in women; those who would otherwise have died are preserved, and thus the just proportion between head and pelvis is gradually lost. First, natural labors become difficult, though not impossible. The severity of the labor exhausts the woman, and makes her so ill, and liable to septic infection from tears, abrasions, and crushings, that under more savage conditions she would perish. In any case she is incapacitated from labor or movement for some days. In the highest civilization, such as our own, labors are so difficult that many of them are terminated only by surgical interference. How important this surgical interference is, every skilled obstetrician may judge for himself. Let him think how many small-hipped women and large-headed children he saves annually. Suppose they perished, would not the average difficulty of labor among the circle of his patients be appreciably ameliorated in the next generation? What happens in his own circle happens in the world at large. Here, then, the author thinks we have the reason why the labors of civilized women grow increasingly difficult as our surgical skill improves, an increase of difficulty which to some small extent explains that increase of instrumental interference which Professor Sinclair so grievously deplores. About the end of the twenty-first century Dr. Reid thinks it not improbable that another gynæcologist will denounce the obstetricians of his day, and point out that, while their grandsires used forceps in only about seventy-five per cent. of their cases, degenerate contemporaries use them in at least ninety-nine per cent. In the not very remote future it seems to him probable that normal labor will be the exception, not the rule. Injuries will then be very numerous, and gynæcologists very busy.

Unusually Delayed Development of Vaccine Pustules.—Dr. E. T. Duke (*Maryland Medical Journal*, October 28th) records an extraordinary case of delayed development of vaccine pustules. He vaccinated a man in February, 1899, but the vaccination apparently did not take. In the following August the subject was daily on the beach in bathing costume. Within a few days after being exposed to the intense heat of the sun a vesicle formed at the point of vaccination, the patient's arm became inflamed and swollen, and following this a scab formed, which remained for three weeks, and being removed left a well-marked cicatrix.

Hæmophilia.—Dr. G. W. Wagner (*Physician and Surgeon*, September), in a paper on this subject, concludes from a careful study of the literature that: 1. Hæmophiliacs make blood rapidly, the cause of which fact is undetermined. 2. There is a tendency to plethora of the smaller vessels, especially of the capillaries. 3. The deficiency of oxygen in the blood is one of the main reasons for its slow coagulation. 4. The narrow lung space, at least in some cases, is a factor in the deficient oxygenation of the blood (whence the author suggests that in future the capacity of the lung space be carefully noted). 5. Apparently the best remedy to control the hæmorrhage is oxygen, either by inhalation or contact. It acts in two ways, causing greater rapidity in the coagulation of the blood and also causing the nuclei of the endothelial cells of the capillary wall to swell and thus narrow the lumen of the vessel.

Antitoxine Statistics in Diphtheria.—Dr. A. J. Tonkin (*Lancet*, October 21st), as the result of observations on two hundred cases of diphtheria treated at the Monsall Fever Hospital, full statistical tables of which are given, concludes as to the use of antitoxine that: 1. The general mortality rate is reduced. The mortality for cases treated during the first three days of illness is reduced to about three per cent. and that for all other cases to about twelve per cent. 2. Laryngeal cases treated early are markedly affected for the better, the death-rate being very considerably reduced. 3. The tracheotomy mortality is very much lessened. 4. There is less need for tracheotomy if treatment is begun early. 5. All ages and both sexes are equally affected. 6. The chances of nephritis are lessened. 7. When treatment is begun early albuminuria may not appear, and if appearing, will probably not be severe, and will disappear soon. 8. Paralysis is lessened for cases treated on the first and second days of the illness. The paralysis mortality is much reduced. 9. Extension of disease to the larynx and parts below was not noted after injection of antitoxine. 10. The only disadvantage noted after its use was a slight discomfort for a few days from urticarial rashes and pains in the joints in a small percentage of the cases. The conclusions arrived at may be taken as a plea for early diagnosis and early antitoxic treatment.

Mixed Diet in Typhoid Fever. — Dr. Gyrnitsky (*Vratch*, September; *St. Paul Medical Journal*, December), in a paper read before the Wilna Medical Society, said that Botkin, Manassen, and Tchdnovsky are advocating the mixed diet. He then reported his own cases. From December, 1898, to June, 1899, there were admitted a hundred and fifty-two patients with typhoid fever to the Wilna city hospital. Of these, eighty were put on a mixed diet. The regimen was as follows: 8 A. M., milk or tea and white bread were given; 10 A. M., a glass of milk; at 2 P. M., a piece of herring to excite appetite, followed by meat soup, boiled meat, or beefsteak; at 6 P. M., chicken broth, and at 8 P. M., milk with or without bread. Coffee was served every other day, and wine occasionally. The results were gratifying; indeed, as a rule, the patient's tongue was clean, delirium rare, no intestinal hæmorrhage, no relapses, and convalescence was rapid, the patient looking well from the time the fever left him. The only bad results were: Marked tympanites, one; severe vomiting, one; delirium, one; pain or discomfort in abdomen, one. Of the fifty-two patients treated to a restricted diet, the results were as follows: Localized peritonitis, one; middle-ear complications, one; mania, two; delirium, four; meningitis, two; relapses, four; convalescence tedious, strength returning slowly. The death-rate was in the same proportion.

Static Electricity for Sprains.—Snow (*Journal of Electro-therapeutics*, October; *Charlotte Medical Journal*, November) says that electro-static treatment for sprains produces very prompt and satisfactory relief when there is no rupture or laceration of the soft parts. Even in other severe cases such treatment will afford more relief than any other. The method of treatment is as follows: The patient is seated upon the platform with the negative pole grounded, the balls of the prime conductors being in contact; the affected joint being encased in a sheet or bandage of block tin, closely molded to the surface. With one cord connect the patient with the positive pole of the machine. Now start the machine and gradually open the spark gap until either the muscles are thrown into slight contractions or the patient complains of discomfort from the treatment. At this point, allow the machine to run for from ten to twenty minutes. At the end of the treatment, upon removing the metal bandage, the surface will be found wet and the patient will be able to move the joint with freedom and without pain, if the treatment has shortly followed the accident and there has been no solution of continuity. In any event, the patient will be greatly relieved and the conditions much improved. This is due to the prompt restoration of equilibrium—the general effect of electro-static currents in congested and painful conditions.

Urotropin in Chronic Inflammation of the Seminal Vesicles.—Dr. J. M. Thompson (*Boston Medical and Surgical Journal*, November 16th) says that thus far in his experience urotropin has had the most noticeable and salutary effect in this affection. As a rule, when first seen, these patients call one's attention to the urine, which is nearly always abnormal in color, high in specific gravity, and more or less turbid. A deranged nervous system is not uncommon, while the neurotic element frequently betrays itself. Such patients, too, are likely to suffer from either periodical or persistent phosphaturia, which urotropin dissipates as if by magic. The turbidity so common in these cases, whether due to the pathological deposit which escapes backward from the vesicles or to involvement of the prostate (what is known as "prostatorrhœa"), to a catarrhal condition of the deep urethra or to the presence of bacteria, disappears after the administration of urotropin.

It is not uncommon to find among those who have suffered from the pangs and discomforts which only the gonococcus causes that after all symptoms have ceased for a time the discharge returns copious and free, yet unaccompanied by the other symptoms characteristic of the first stage. Naturally, such patients are likely to be extremely debilitated and nervous; their urine is either neutral or alkaline. Upon questioning them, one will discover that the treatment which they have followed included the daily use of an antacid, like sodium bicarbonate, which for the first few days contributes to the patient's relief, but when continued beyond the acute stage, or rather beyond the time when such treatment is indicated, by prolonging an abnormal (alkaline) reaction of the urine, keeps such normal constituents as phosphates, carbonates, etc., in a state of precipitation, a condition that must in time act as a mechanical irritant to the urethral mucous membrane and provoke what may be termed a "phosphatic urethritis." If urotropin is ordered in seven-and-a-half-grain doses morning and evening, a most happy effect will be noticed in about forty-eight hours, and, unlike the effect produced by a mineral acid, of a permanent character.

Recently the author tried urotropin in two cases—the patients aged sixty-four and fifty-seven respectively—with enlarged prostate. Both had been obliged to use a catheter for years, except at times when the symptoms abated sufficiently to enable them to void their urine naturally. At such times as the catheter was not a necessity the urine appeared normal, beyond the presence of small flocculi and comma-shaped shreds; whenever the catheter was likely to be employed the urine took on a murky, cystitic look, and soon became alkaline and foul-smelling. The usual subjective symptoms returned, and life became a real burden. Both patients were under observation at this stage, when it was expected that the catheter might be required at any moment. In order to test the virtues of urotropin, each patient was put on seven grains and a half of the drug three times a day. The effect was most gratifying, for the urine cleared up rapidly, and the subjective symptoms disappeared gradually. The urine still remains in a satisfactory condition, and both patients report that urotropin has enabled them to enjoy the longest period of happiness that has fallen to their lot for years.

The Treatment of Gouty Tophi with Piperazin.—Dr. Giofredi (*Gazzetta degli ospedali; Revista de Medicina y Cirugía Prácticas*, October 25th) says that the general manifestations of gout are improved by the prolonged internal administration of piperazin; but this substance was inefficacious against gouty concretions situated in the tendon of the peroneus longus—three quarters of a grain of piperazin dissolved in half a cubic centimetre of water were therefore injected into the concretion. The patient felt an acute burning pain, which was relieved by the application of ice. On the second day some diminution of volume in the concretion was observed. The injections were repeated till ten had been given, and were followed by complete disappearance of the tophi. Dr. Giofredi thinks that intra-articular injections of piperazin might be efficacious in gouty arthritis.

Non-ecbolic Hæmostatic Remedies. — Professor Bossi, of the University of Genoa (*Riforma medica*, July 10th), sums up a series of papers with the following conclusions: 1. There persists in obstetric practice, especially among midwives, an abuse of ergot, which it is a rule now ought not to be administered so long as the uterus is not emptied; this abuse is caused particularly by ignorance, and by the scanty employment of the non-ecbolic uterine hæmostatics. 2. Obstetric practice should be enriched with the greatest possible number of non-ecbolic hæmostatics for administration during pregnancy and the puerperium, and not by extending the use within given limits and under special guarantees even to midwives of the employment of ergot, which is beset by considerable dangers. 3. To hydrastis canadensis and hamamelis virginica we can now add stypticin and acetanilide as non-ecbolic hæmostatics. 4. Experiments on animals have proved stypticin to be less toxic than the fluid extract of hydrastis and not provocative in the pregnant state of any disturbances worthy of note. Moreover, as in animals (gravid bitches and rabbits), so in women, it has not shown any ecbolic action, but rather possesses calmative properties. 5. Acetanilide has been demonstrated by clinical experiments as a uterine hæmostatic with special properties of quieting the contractions. 6. Although the hæmostatic action on the uterus of stypticin and acetanilide is not proved to be superior to that of hydrastis, these remedies nevertheless are most useful in practice, either in alternation with hydrastis and hamamelis or in substitution for them. 7. By the rational subdivision of obstetrical metrorrhagias into (*a*) metrorrhagia of pregnancy with a possibility of avoiding its interruption, and (*b*) metrorrhagia previous to, during, and after parturition, where the interruption is inevitable, we can usefully prescribe as follows: *a*, in the first group, a mixture of non-ecbolic hæmostatics (hydrastis, hamamelis, stypticin) with uterine sedatives (viburnum, piscidia, opiates), acetanilide excepted; *b*, in the second group, a mixture of hydrastis, hamamelis, stypticin, recurring, however, when necessary, to the use of sugar and quinine. The use of this mixture of remedies is authorized by the consideration that in obstetric practice hæmorrhage demands nearly always urgent and efficacious intervention. The author refers to the following formulæ. For group *a*:

℞ Fluid extract of hydrastis canadensis,
Fluid extract of hamamelis virginica,
Tincture of piscidia erythrina,
Fluid extract of viburnum prunifolium, } of each 150 grains;
Sydenham's laudanum .... 30 grains.
M.

Of this mixture not less than ninety drops should be administered at a time in half a tumbler of water, and according to the indications this dose may be given up to thrice in twenty-four hours. A five-grain tablet of stypticin may be given at the same time.

In group *b*:

℞ Fluid extract of hydrastis,
Fluid extract of hamamelis, } of each 150 grains;
Stypticin .... 4½ "

M. Administer from a measured phial not more than one hundred drops for a dose, repeating if necessary to three times in the twenty-four hours.

When it is necessary to reenforce the uterine contractions without incurring danger of tetanus of the womb, the author recommends from 750 to 3,000 grains of sugar in from 3,000 to 7,500 grains of water, to be sipped as a beverage. Or bisulphate of quinine may be prescribed in a dose of a grain and a half to be taken every hour.

An Antidote for Poisonous Bites.—Dr. S. T. A. Kent (*Charlotte Medical Journal*, November) recently read before the State Medical Society of Virginia a short communication on a remedy for snake and spider bites. It is a moss known locally in Halifax and Pittsylvania Counties, Virginia, as "snake moss." A knowledge of its virtues was obtained by Dr. Rawley White, of Virginia, from the Indians in the early years of the present century. It has, however, not hitherto attracted much professional attention. It has been identified for the author by Messrs. Parke, Davis, & Co. as "one of the allies of the ferns, viz., one of the club mosses, *Selaginella apus* (Linn.)." It is found only in moist, shady places. The method of using the plant is to take as much as can be packed in a large thimble, about half a drachm in weight, macerate it thoroughly with an ounce of sweet milk, and swallow a portion of the moss, binding the balance to the wound. The author is, however, skeptical as to the share of the local application in the cure. It seems to give prompt relief from pain, to alleviate shock, and to rapidly remove swelling and all local and constitutional symptoms. The author records from among others two cases in human beings and one in a dog of bites by a copperhead moccasin in which these effects were promptly manifested. It would seem as though the differences between the venoms of different reptiles were those of activity and intensity only, and not of degree, and consequently it is surmised that a remedy useful against the bites of certain reptiles would probably prove useful with modifications against others.

Carbonic-acid Gas in Heart Disease.—W. Ewart (*Medical Record,* September 9th; *Medical Times,* December) says that mitral stenosis and pain are greatly relieved by the inhalation of carbonic-acid gas for thirty seconds, the patient's bowels to be kept very free and the use of cardiac tonics to be restricted. There is not only a relief of pain, but greater freedom of respiration, with an improved state of the pulse and the appearance generally. Carbonic-acid gas acts as an anæsthetic, and also as a stimulus to the muscles of respiration, and a continued use of the inhalations has the effect of gradually removing the dilatation. By the ordinary treatment it is difficult to influence mitral stenosis, but carbonic-acid gas has always improved and often restored the patient to a condition of comfort.

Fish as Conveyers of Tuberculosis.—The French correspondent of the *Medical News* for December 2d says that at the Society of Biology, on October 7th, Nicolas and Lesieur told of the results they obtained by causing young fish to eat sputum known to contain tubercle bacilli. After seven months the fish were killed and the bacilli were found to be present in every organ of their bodies which was examined. The muscular portions of these fishes were given to guinea-pigs, and in the nodules and abscesses which subsequently formed in the bodies of these pigs tubercle bacilli were readily demonstrated.

Temporary Contraindications to Vaccination.—*Pædiatrics* for November 15th condenses from a recent number of the *Presse médicale* the following observations: At the *Maternités de l'assistance publiques* of Paris, the rule is, not to vaccinate newborn infants weighing less than twenty-five hundred grammes (five pounds and a half). In infants with active erythema of the nates vaccination is postponed. A little later there may appear a formal contraindication—eczema. Whether on head or body, local or generalized, moist or dry, it should at once excite the attention of the physician. The danger is the appearance of supplementary vaccine pustules upon the diseased areas. Experience has shown that the risk is far from imaginary. Vaccine eruptions have appeared with great violence on eczematous skin, the virus being conveyed by the child's or nurse's fingers, by clothes, etc., and being easily inoculable upon a raw surface. Only in times of small-pox epidemic should we disregard such contraindications.

A Hydatid Cyst in the Femoral Canal.—Dr. Frederick Edge (*British Medical Journal,* November 18th) records the case of a patient sent to him with a lump in the left groin, situated over the saphenous opening, lobulated, firm, and presenting no impulse on coughing. It had been increasing in size and was rather tender. The diagnosis was one of irreducible omental femoral hernia or lipoma coming from the femoral canal, and, as the lump was growing and causing pain, he determined to remove it.

A sac was met with and opened, when about a dozen daughter cysts escaped. The sac was dissected out and found not to enter the femoral canal, so that the hydatids were not deposited in herniated omentum, but in cellular or lymphatic tissue.

The Antenatal and Intranatal Factors in Neonatal Pathology.—Dr. J. B. Ballantyne (*Journal of the American Medical Association,* November 10th), in a paper read before the Columbus meeting, gives the following summary of his conclusions:

"From all that has been said above, it is clearly evident that if the characters of the diseases of the newborn infant are to be understood it is essential that account be taken, not only of the facts that the infant's organism has just passed through a period of traumatism and is passing through one of readjustment to meet new requirements, but also that during the nine months of intra-uterine life which precede birth it may have been the sphere of morbid processes which have left their impress on it. It may come into the extra-uterine environment already diseased or malformed or predisposed to some pathological development. Like pregnancy, neonatal life is an epoch which has a physiology in many respects peculiar to itself, and which borders very closely on the pathological, tending very easily to pass over into it. In a certain sense the ordinary vomiting of pregnancy is to the uncontrollable form as the ordinary 'physiological' jaundice of the newborn is to pernicious icterus neonatorum. Further, just as every woman brings with her into her pregnancy the results of her past pathological history, so the newborn infant brings with him, out of his antenatal life into his neonatal existence, the effects of any morbid processes which may have attacked him *in utero.* In this way the pathology of pregnancy and the maladies of the newborn infant are both invested with peculiarities. The peculiarities, therefore, of neonatal diseases are not inexplicable, but are the direct outcome of the action of the antenatal and intranatal factors on the organism at this period of life."

Injections of Normal Saline Solution in Mushroom Poisoning.—Dr. Delobel (*Presse médicale,* September 30th; *Treatment,* November 9th) was summoned to a man, aged fifty-two years, who had eaten a mushroom omelet, and found the patient covered with cold, clammy perspiration, breathing stertorously, and moaning pitifully from time to time. He trembled so violently that his bed shook under him; he was extremely cold; the pupils were dilated *ad maximum;* the pulse was feeble, almost imperceptible, and exceedingly slow, averaging 28 per minute. The patient had not vomited or had any action of the bowels, and there was suppression of urine. Considering that four hours had passed since the patient had eaten the mushroom omelet, Dr. Delobel thought that the end was near. However, he gave the man two hypodermic injections of atropine sulphate and ten injections of one cubic centimetre each of sulphuric ether; hot-water bottles were placed in the bed next to the patient, and two hundred cubic centimetres of a strong infusion of black coffee containing twenty cubic centimetres of rum were given by the mouth.

Presently the situation changed for the worse: the tremors ceased entirely; the patient lay motionless on his back; the pulse dropped to 24. At this critical moment a thousand cubic centimetres of artificial serum were injected slowly under the skin of the thigh with a Roux's syringe holding forty cubic centimetres.

The change which came over the patient almost immediately was remarkable. The pulse became strong and heaving, increasing at the same time somewhat in frequency; when counted at intervals of fifteen minutes, its rate in a minute was 24, 28, 32, 40, 60 respectively. In the evening, before Dr. Delobel left his patient, the pulse rate had risen to 70 beats.

While this improvement in the heart's action took place, the respiration lost its Cheyne-Stokes character and became again regular; the temperature rose to normal. The next morning the patient had entirely recovered, and he went to work as usual on the following day.

The doctor examined some of the mushrooms that were left, and found that some were edible and some poisonous. The poisonous fungi, according to the description given by the author, were *Agaricus phalloides* and *Boletus luridus.*

Magnesium Sulphate in Tropical Dysentery.—Dr. F. A. Rouget, of Port Louis, Mauritius (*British Medical Journal,* November 18th) records the comparative results of the treatment of dysentery in the prison hospital by ordinary methods and by sulphate of magnesium. His results are as follows: Out of a total of forty-one cases in four months and a half treated by ordinary measures, six being severe and thirty-six mild, three severe cases died, two recovered, and one was discharged from hospital on the expiration of sentence, not improved; while twenty-eight mild cases recovered, and seven were discharged not improved. With the sulphate-of-magnesium treatment, however, the results were as follows: In ten months and a half fifty-six cases were treated, fifteen severe and forty-one mild. There were no deaths, but the fifteen severe cases recovered, as did thirty-nine mild ones, while two mild ones were discharged improved on expiration of sentence. The author says that the sulphate of magnesium was administered in doses of from a drachm and a half to two drachms, with ten minims of aromatic sulphuric acid and some cinnamon water and syrup. The result of the treatment was in all cases without exception remarkable. In from eighteen to thirty-six hours the dysenteric stools entirely disappeared; soft, yellowish fæces were passed instead, and in a few days the cure was complete. During convalescence a powder composed of salicylate of bismuth, fifteen grains, and benzo-naphthol, ten grains, was given three times daily, to which three or four grains of Dover's powder were sometimes added.

In addition to this treatment, says the author, too much attention can not be paid to the diet, which should essentially be a milk diet. Any deviation from it is likely to materially interfere with recovery, and in not a few instances relapses occurred among the cases under his care owing to his Indian patients eating rice and curry.

Gelatinized Serum in Purpura Hæmorrhagica.—The forms of hæmorrhage in which gelatin has been recommended are many. Dr. Arcangeli, of Rome (*Semaine médicale; Treatment,* November 9th), adds records of the successful use of a two-per-cent. gelatin in normal saline solution by injection into the subcutaneous abdominal tissue in cases of purpura with recurrent epistaxis and hæmorrhage from the gums. The patients were young girls, aged thirteen and ten years. The dose employed was, in the first case, two injections of twenty cubic centimetres each, and in the second two injections of fifteen and ten cubic centimetres respectively, administered with twenty-four hours' interval.

A Red Coloration of the Fæces Simulating Blood.—Dr. Alfred H. Carter (*Lancet,* November 25th) records three very interesting cases—one, an old man suffering from chronic valvular disease of the heart and febrile toxæmia in connection with cystitis; another, a case of typhoid fever; the third, one of acute pneumonia. In all these cases the stools were of a golden-brown color, a streaky red color, closely resembling blood, being observed on the upper surface. Cotton pads, moreover, were stained till they bore strongly the appearance of blood. Close examination showed that the red streaks were due to the breaking up of a red layer on the upper surface, and that this coloration occurred on placing some of the golden-brown fæces in a clean vessel, exposing it to the air, with repeated agitation. A careful examination by Dr. MacMunn, spectroscopical and chemical, failed to give evidence of blood. Dr. MacMunn concluded his report as follows: "I regret that I had not more material to work upon, but from the foregoing reactions the following conclusions are justified: 1. That no blood in any form was present. 2. That no bilirubin or biliverdin was present. 3. That the pigment coloring the fæces red was closely related to stercobilin (the normal pigment), though differing from it in some slight particulars. (I believe the difference is due to the incompletely metabolized condition in which it was excreted.) 4. That the fæces at first contained the chromogen of the pigment, which on exposure to the air became converted into the corresponding pigment."

Dr. Carter points out that while only reasonable care is required to distinguish altered blood from the darkened stools of those who are taking bismuth, charcoal, or eating large quantities of meat, a red pigmentation resembling unaltered blood in the stools is of sufficient interest to demand notice, especially in view of the clinical importance of the latter phenomenon.

Book Notices.

Massage Treatment (Thure Brandt) in Diseases of Women. For Practitioners. By Dr. Robert Ziegenspeck, Professor of Gynæcology and Obstetrics at the University of Munich. Authorized Translation by Dr. F. H. Westerschulte, Attending Physician of the Norwegian Lutheran Deaconesses' Hospital. With Seventeen Illustrations. Chicago: Published by the Author, 1899. Pp. 3 to 263.

Of late years, since the novelty of operative gynæcology has somewhat worn off, there has been an attempt made to introduce into the treatment of low-grade pelvic inflammations the methods of hydrotherapy and massage, especially the latter, which have proved to be so valuable in the relief of general disease.

Every thoughtful gynæcologist must realize that total hysterectomy is not an ideal procedure, and many patients return after so-called conservative and partial operations in a condition in no way improved by the surgical intervention. So, too, the majority of the subjects of so-called "pus tube" are sterile, the tube containing only sterile *débris.* This thickened and chronically inflamed tissue is, of course, a place of lowered resistance and may at any time give entrance to a fresh infection, but, on the other hand, any one who has had a considerable autopsy experience will testify to the existence of many cases of chronic pelvic inflammation and adhesions which have given the patient no distress. The fact that so many of these cases run a subacute or chronic course has given rise to an attempt to obtain a cure of the milder types by local massage and general treatment. So far, the acceptance of the idea has not been widespread; few of the more influential gynæcologists have taken more than a passing interest in the subject, and the expenditure of time required to produce a permanent cure, added to the high cost of the process, has greatly militated against its adoption. Ziegenspeck is one of those who have followed in the footsteps of Thure Brandt, the chief exponent of the method, and this translation of his book will be valuable to those who have not had access to the original. The volume contains a very detailed account of the various processes and manipulations to be used in the treatment of diseased annexa, and will be most welcome to those who seek to effect permanent cures in gynæcological cases.

Pyorrhœa Alveolaris and its Relations to General Medicine. By John Fitzgerald, L. D. S., Dental Surgeon to the Italian Hospital, etc. London: The Medical Publishing Company, Limited, 1899. Pp. 62.

This small volume has been written to explain the causes and nature of the disease whose characteristic is a low-grade inflammation of the tissues closely surrounding the teeth, and to give some idea of the importance to the general practitioner of a practical knowledge of the disease. It certainly fulfills this task in a most complete manner.

Interstitial Gingivitis, or So-called Pyorrhœa Alveolaris. By Eugene S. Talbot, M. D., D. D. S., Professor of Dental and Oral Surgery, Northwestern University, Woman's Medical School, etc. With Seventy-three Illustrations. Philadelphia: The S. S. White Dental Manufacturing Company, 1899. Pp. ix–192.

This is a most thorough exposition, both historical and practical, of the subject of interstitial gingivitis, which has evidently been the subject of much careful investigation by the author. Especially noteworthy are the photomicrographs with which the volume is profusely illustrated, showing all the different pathological stages of the disease. The printing and binding are excellent and the book can be confidently recommended.

Opinions of over One Hundred Physicians on the Use of Opium in China. Compiled by William Hector Park, M. D., Surgeon-in-charge of the Soochow Hospital, etc. Shanghai: The American Presbyterian Mission Press, 1899. Pp. xiv–95.

This pamphlet is the result of a collective investigation instigated by the Soochow Missionary Association with a view to determine the extent of the evil produced by the smoking of opium. Almost all the replies show that the habit is on the increase, and that it tends to degrade its devotees and render them incapable of mental or physical labor. The remedies proposed include the prohibition of the growth of the poppy in India, an industrial revolution not likely to take place.

A Class Book of (Elementary) Practical Physiology: including Histology, Chemical and Experimental Physiology. By De Burgh Birch, M. D., C. M., F. R. S. E., Professor of Physiology in the Yorkshire College of the Victoria University, etc. Philadelphia: P. Blakiston's Son & Co., 1899. Pp. x–5 to 273. [Price, $1.75.]

This small volume is one of a class by itself, in the consideration of which the purpose for which the book is written must always be kept in mind. It is written for the author's own classes in practical histology and physiology, and is not therefore intended for general circulation, except perhaps among teachers of the subjects treated. The part on histology is less original and less suggestive than the remainder, perhaps from the nature of the subject. The remaining sections, on chemical physiology and experimental physiology, besides offering a clear, condensed outline of the elementary course they cover, contain many hints from the point of view of the experienced teacher and practical laboratory worker. Special attention may be called to the simple physiological apparatus supplied to each student and the methods of furnishing power and chronographic currents for each desk. In the field in which it is to be used, as a practical elementary class book, the work is an excellent one.

Mémoire sur la bactériologie, pathogénie, traitement et prophylaxie de la fièvre jaune. Présenté au Congrès international d'hygiène et démographie de Madrid. Par le Dr. Domingos Freire, Directeur de l'Institut bactériologique de Rio de Janeiro. Rio dé Janeiro: Typographia Leuzinger, 1899. Pp. ii–5 to 182.

The subject of the pathology of yellow fever has been a difficult one to unravel, and, unfortunately, its discussion has of late become to some extent polemic and personal rather than cool and scientific. The author of this monograph was one of the first to isolate from the blood an organism which he considers as the cause of the disease. The scientific world has never taken kindly to his ideas on the subject, and the connection of the organism with yellow fever has not generally been looked upon as specific. He reports excellent results following the protective inoculation of patients with attenuated cultures.

Aseptic Duties of a Surgical Nurse or Dresser. By John O'Conor, M. A., M. D., Senior Medical Officer, British Hospital, Buenos Aires. Buenos Aires: John Grant & Sons, 1899. Pp. 5 to 23.

This is a small volume intended as a guide to nurses and surgical dressers in the preparation of dressing and the sterilization of the hands, the instruments, and the patient's skin. It is well suited for that purpose.

Cure prompte et radicale de la syphilis. Syphilis et mercure. Par le Dr. J. F. Larrieu, Médecin de l'Hôpital de Montfort-l'Amaury, etc. Troisième édition. Paris: Société d'éditions scientifiques, 1899. Pp. 10 to 134.

The author advocates the early use of both a dilute watery solution of the tincture of iodine and a moderate dose of sodium iodide. The tincture of iodine, he says, is much more efficacious than the salts of iodine, and is especially valuable when associated with the local application of a white-precipitate ointment to the chancre or the cutaneous lesions. The treatment lasts from six to eight months, but in bad cases it may have to be resumed if any tertiary symptoms appear.

BOOKS, ETC., RECEIVED.

A Practical Treatise on Medical Diagnosis. For Students and Practitioners. By John H. Musser, M. D., Professor of Clinical Medicine in the University of Pennsylvania, etc. Third Edition, revised and enlarged. Illustrated with Two Hundred and Fifty-three Woodcuts and Forty-eight Colored Plates. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. xv–17 to 1082.

Refraction and how to Refract. Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eyeglasses, etc. By James Thorington, A. M., M. D., Adjunct Professor of Ophthalmology in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Two Hundred Illustrations, Thirteen of which are Colored. Philadelphia: P. Blakiston's Son & Co., 1900. Pp. xiii–9 to 301. [Price, $1.50.]

Essentials of Modern Treatment of Disease. For the Use of Practitioners (Alphabetically Arranged for Ready Reference). By K. M. Nadkarni, Fellow of the Incorporated Society of Science, Letters, and Art of London, etc. Madras: N. K. Rao & Co. London: Baillière, Tindall, & Cox, 1899. Part II. Pp. 213 to 462.

Report of the Surgeon-General, United States Navy, to the Secretary of the Navy. 1899.

The Vital Statistics of Massachusetts for 1897, with a Life Table based upon the Experience of the Five-year Period, 1893–1897. [Reprinted from the *Thirtieth Annual Report of the State Board of Health of Massachusetts.*]

On the Clinical Relations of the Papillary Muscles of the Heart. By Henry Sewall, M. D., of Denver. [Reprinted from the *Philadelphia Monthly Medical Journal.*]

A Case of Persistent Foramen Ovale with Auscultatory Signs. By Henry Sewall, M. D. [Reprinted from the *Colorado Medical Journal.*]

The Completed History of a Case of Total Extirpation of the Stomach. By Maurice H. Richardson, M. D., of Boston. [Reprinted from the *Boston Medical and Surgical Journal.*]

New Inventions, etc.

SOME OF THE DANGERS OF ACUTE PHARYNGEAL ABSCESS OBVIATED BY THE USE OF A NEW TROCAR.

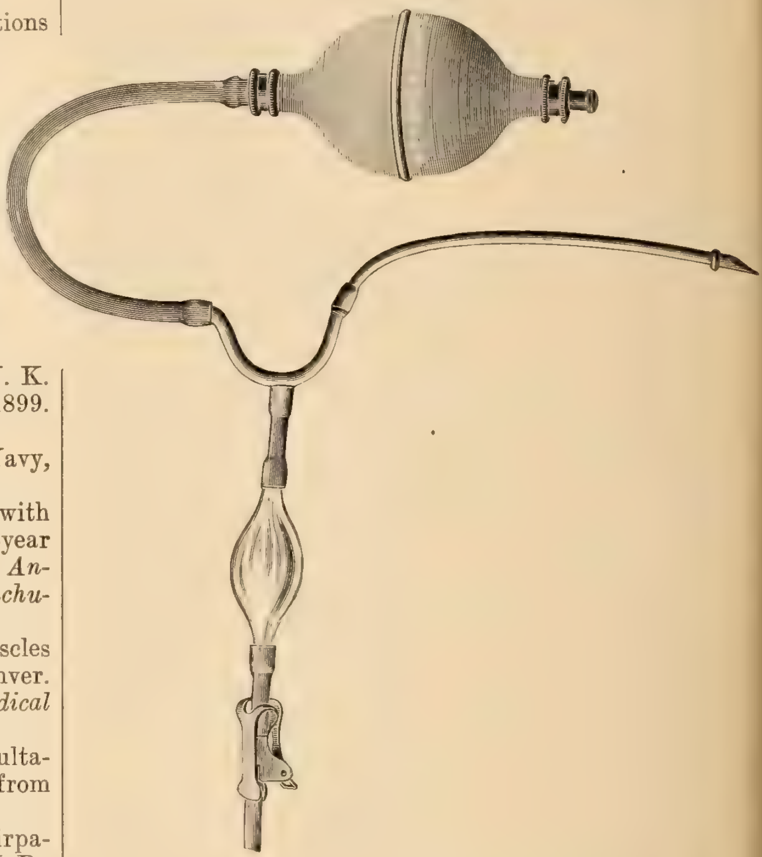
By George C. Gage, M. D.,

ASSISTANT SURGEON, NEW YORK EYE INFIRMARY.

Several cases of suffocation from pus entering the larynx during the opening of acute pharyngeal abscesses, although the children were placed in the prescribed forward-recumbent position, have recently come to my notice. These have forced me to the conclusion that this danger can only be obviated through the use of a safe trocar in emptying the abscess through the mouth; then the danger of suffocation by pus entering the larynx may be avoided.

The point of this trocar has been made cone-shape so as to prevent any leakage; a guard ferrule has also been placed half an inch from the trocar point, which prevents its being pushed into tissues beyond the abscess wall. The hypodermic point admits of easy entrance, with no cutting edge to wound vessels.

In using the instrument, a mouth gag or cork is first placed between the molar teeth; then the left forefinger is carried down upon the abscess, and, using this as a guide, the trocar point is passed into the abscess with the right hand. The curve of the trocar adapts itself to the shape of the tongue. In case the pus should be too thick to flow readily, close the clamp on the rubber tube and apply suction at the distal end of the trocar by squeezing the bulb; the pus will then make its appearance down in the glass bulb. If the pus is thin, the trocar can be used without either tubing or bulb by disconnecting the instrument in the centre; there will then be a short trocar for evacuating either a peritonsillar or retropharyngeal abscess.



47 West Forty-ninth Street.

Miscellany.

A Pre-Listerian Travesty of the Germ Theory.—The *National Medical Review* for November quotes the following curious dialogue from *The Devil on Two Sticks,* by Foote, published in the year 1768, and reprinted by William Miller in the *British Drama*, London, 1804:

"*Dr. Hellebore:* Brethren and students, I am going to open to you some notable discoveries that I have made respecting the source, or primary cause, of all distempers incidental to the human machine. And these, brethren, I attribute to certain animalculæ, or piscatory entities, that insinuate themselves through the pores into the blood, and in that fluid sport, toss and tumble about, like mackerel or codfish in the great deep. And to convince you that this is not a mere *gratis dictum*, an hypothesis only, I will give you demonstrative proof. Bring hither the microscope. (*Servant enters with microscope.*) Doctor Last, regard this receiver. Take a peep.

"*Dr. Last:* Where?

"*Dr. Hellebore:* There. Those two yellow drops there were drawn from a subject afflicted with the jaundice. Well, what d'ye see?

"*Dr. Last:* Some little creatures like yellow flies, that are hopping and skipping about.

"*Dr. Hellebore:* Right. Those yellow flies give the tinge to the skin and undoubtedly cause the disease. And now for the cure! I administer to every patient the two and fiftieth part of a scruple of the ovaria or eggs of the spider; these are thrown by the digestive powers into the secretory; there separated from the alimentary, and then precipitated into the circulatory; where, finding a proper nidus or nest, they quit their torpid state and vivify, and upon vivification discerning the flies, their natural food, they immediately fall foul of them, extirpate the race out of the blood, and restore the patient to health.

"*Dr. Last:* And what becomes of the spiders?

"*Dr. Hellebore:* Oh, they die, you know, for want of nutrition. Then I send the patient down to Brighthelmstone, and a couple of dips in the salt water washes the cobwebs entirely out of the blood."

The Solidification of Hydrogen.—The *Druggist's Circular* for November says that one by one the elements which a generation ago were known only as "permanent" gases have been reduced to more tangible form. The liquefaction of some of these gases was a great advance; but of late years immense improvement in apparatus has rendered possible solidification of those which for a time could be liquefied only.

Hydrogen has been the most resistant to treatment of these older elements, and its liquefaction was rightly regarded as a great feat; but Dewar, so well known for his work in this line, has finally reduced the liquid to the solid form.

From communications made to the French Academy and the British Association the following particulars are taken: The result was arrived at by utilizing the extreme cold produced by the evaporation of liquid hydrogen itself—one portion of the liquid being made to freeze the other, which action was long ago observed in the rapid escape of liquid carbon dioxide. An insulated beaker was partly filled with liquid hydrogen, and closed with an adjustment containing orifices through which the vessel could be emptied with great rapidity by means of a pneumatic pump. The preparation for the experiment was completed by immersing in the liquid in the larger receptacle a similar vessel also containing liquid hydrogen, cold to such a degree being produced by the evaporation that the hydrogen in the inner vessel was solidified. At first Professor Dewar suspected that the solid thus obtained might be a residuum of air adhering to the apparatus, or from air and hydrogen combined in preparing the gas. By further experiment, however, he became satisfied that the product was really solid hydrogen.

The solid so obtained had the appearance of frozen water—not of a metal, as might have been expected from the markedly basic character of hydrogen. The density of the solid was 0.086, and of the liquid at the melting point 0.07.

The hydrogen for the experiment was obtained by the action of pure sulphuric acid on pure zinc. The temperature reached in the experiment was −265° C., the lowest degree yet attained.

It has been announced that Professor Dewar has succeeded in liquefying helium by means of liquid hydrogen; and doubtless he will now endeavor to find a way of reducing the newly discovered gas also to the solid state.

Leucoplakia Buccalis et Lingualis.—An article on this subject has been received at this office. The author is requested to send us his name and address.

The First Lady Pharmacist in Paris.—*Lyon médical* for October 22d says that Mlle. Anna Fichtenholz, a pharmaceutical graduate of the first class, who has just opened a pharmacy at Passy, is the first lady pharmacist established in Paris.

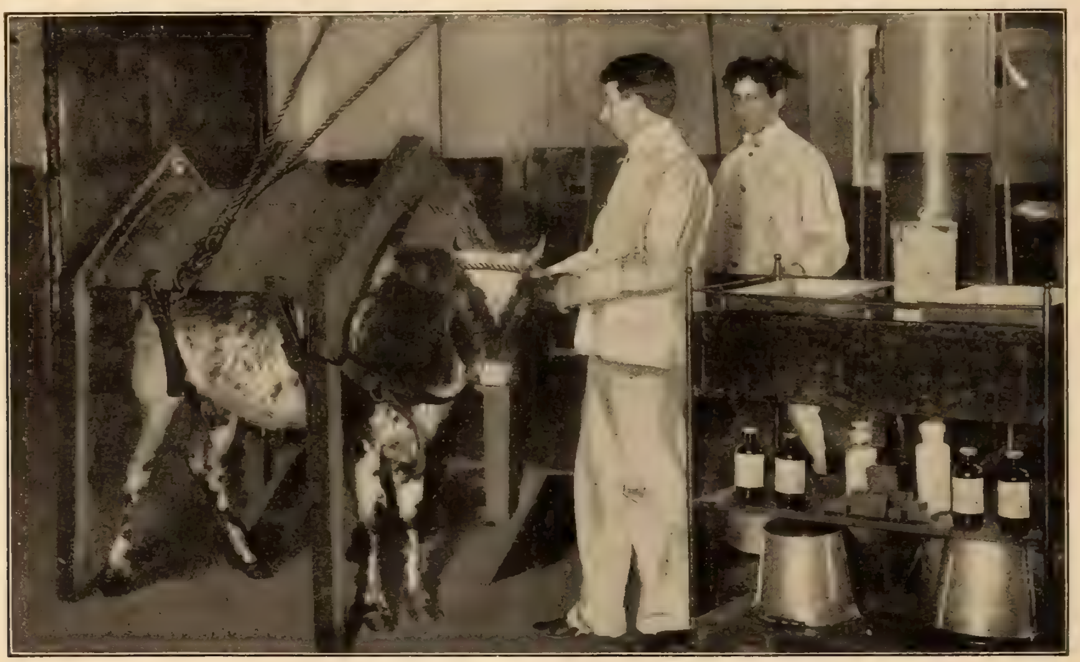
The Soldier's Pocket Dressing in South Africa.—According to the *Medical Review of Reviews* for November, every soldier's kit on active service has a field dressing outfit sewed into a pocket on the inside of the jacket. The outfit consists of gauze, gauze bandage, compressed charpie, safety pins, and a piece of mackintosh. Directions for use are printed on the inside and outside covers.

The Doctor's Ass.—Dr. Achilles Rose translates as follows a story told in a recent number of Καιροί:

In Egypt, physicians visiting their patients often ride on asses. Asses are very popular in Egypt. Some Asclepias dismounted at the door of a patient of his who was suffering from pharyngeal abscess. By accident he entered into conversation with a friend. The ass, finding the door open, entered the house and went into a room on the ground floor, where the sick man, in a state of fever, was lying. Taking the ass for the doctor, he held out his wrist. The ass took the patient's hand with his teeth. This frightened the sick man so much that he gave a piercing cry. The abscess burst and immediate relief followed. The doctor quickly entered and looked for a stick to drive the ass out of the room, but the patient said to him: "Do not strike the ass, for he has cured me in two seconds, while you have tyrannized over me for fifteen days."

The Society of the Alumni of St. Catharine's Hospital.—About twenty-five physicians who in years gone by were attached to the house staff of the hospital, in order to keep up the pleasant memories associated with their connection with that institution, have organized the Society of the Alumni of St. Catherine's Hospital. The officers elected are Dr. Maurice Enright, president; Dr. George Wieseckel, vice-president; Dr. James S. Slavin, secretary; Dr. William F. Linder, financial secretary; and Dr. Michael J. Neville, treasurer.

The Propagation of Vaccine Virus.—The work of producing vaccine virus on a large scale has of late years come to be more and more recognized as an important adjunct to the practice of medicine. The widespread opposition to animal vaccine that had to be encountered twenty-five or thirty years ago was slowly overcome by individual investigators, but they were largely robbed of the legitimate reward for their labors by the appropriation of public funds to the business of producing vaccine for sale. The result has been that only concerns of large resources can now compete with the producers whose subsidies have enabled them to drive individuals almost entirely out of the field, and even those establishments can compete with the officials only because they produce an article that is believed to be of superior quality. With them the business of propagating vaccine has grown to be so large that they are able to avail themselves of resources beyond the reach of others. These reflections have been called forth by the perusal of advance proofs of an illustrated article that is to appear in *Therapeutic Notes*. One of the illustrations we here present, the block having been kindly lent to us by Messrs. Parke, Davis, & Co., whose establishment is described in the article. It shows a calf made ready to be turned on its back to undergo the necessary procedures. There is no particular novelty about the apparatus employed, but it is doubtless new to many of our readers. The lymph of former days, preserved in the form of a dry film on ivory or quill "points" or "slips," has been to a great extent replaced by "glycerinated" liquid lymph. It remains to be seen if this change will prove to be of advantage.



A Portrait of Dr. John T. Metcalfe Given to the Academy of Medicine.—On November 18th Dr. T. Gaillard Thomas wrote as follows to the president of the Academy of Medicine:

"I have in my possession a life-size protrait of Dr. John T. Metcalfe, of this city, which was painted for me by Lazarus, who a quarter of a century ago was famous as an artist. If the New York Academy of Medicine would honor me by accepting it as an addition to its gallery of eminent physicians, it will give me great pleasure to present it to them, and have it hung in the spot selected."

The president replied as follows: "It affords me much pleasure personally to express in behalf of the council the gratification felt by your presentation to the academy of a portrait of our esteemed fellow, Dr. John T. Metcalfe. His long and eminent career as a physician has made him for many years one of the most distinguished representatives of the profession in New York, recognized as such not only in the medical world, but by the public as well, where his social position was second to none. It is eminently befitting the function of the New York Academy of Medicine to perpetuate by such memorials in its halls the men who have given tone and character to the medical profession of New York, and in no case could such a purpose be better fulfilled than by the reception of your most acceptable donation."

The New York Hospital.—We learn that Dr. Francis H. Markoe has been appointed a visiting surgeon to the hospital.

The German Hospital Alumni Association held its third annual dinner at the Arion Club House on Wednesday, December 6th. Dr. Franz Torek presided, and the speakers were Dr. Abraham Jacobi, Dr. Hermann G. Klotz, and Dr. Henry J. Wolf.

The Physician as Beneficiary.—According to the *Journal of the American Medical Association* for November 25th, the mere fact that the beneficiary of a decedent was the testator's medical adviser, the third appellate division of the supreme court of New York holds *In re* Cornell's Will, does not raise any presumption of undue influence, at least in a case where the beneficiary is not present at the transaction, and the will is drawn from instructions given by the testator himself.

The German Medical Society of the City of New York will hold a Stiftungscommers this (Saturday) evening in Arion Hall.

Original Communications.

ON THE PHYSIOLOGICAL CHARACTER OF THE PAIN OF PARTURITION.*

By SAMUEL M. BRICKNER, A. M., M. D.,
ASSISTANT ATTENDING GYNÆCOLOGIST, MOUNT SINAI HOSPITAL, OUT-PATIENT DEPARTMENT, NEW YORK.

Because the act of parturition, with very rare exceptions, is a painful one, some writers † have been led to assert that the pain incident to childbirth partakes of a pathological character, or that it is at least pseudo-physiological in its nature. To admit the truth of this assertion is to admit the pathological nature of parturition itself, no less than to concede that evolutionary forces have been at fault. If the statement is made in good faith, it merits scientific inquiry, especially since in all available literature no other reference than the one given can be found on either side of the question.

It may be well at the outset to state that the discussion of the sensation *pain*, as it occurs in parturition, must not be allowed to include the injuries inflicted in a normal or an abnormal birth, nor the distress, the inconvenience, or the disadvantage of the attendant suffering. It is further necessary sharply to differentiate between the results of pain and mere states of being, since it is this fault which is responsible for the position taken by those who have inspired this study. Thus, they argue, the pain of parturition is distressing, inconvenient, and disadvantageous; it may be so severe as to give rise to permanent injury or to shock, or, occasionally, to a psychosis. The functions of the bladder and rectum are not painful and are equally necessary and important. Hence the pain of parturition is not in harmony with physiological laws.

In order that we may be absolutely accurate, let us define the terms "physiological" and "pathological." By the former is meant the execution of an act in a manner in harmony with the purposes of the acting organ—that is, in a natural manner. "Pathological" may be defined as the execution of a function in a diseased way, or in a manner which is not in harmony with the natural purposes of the organ.

A brief sketch of the accepted functions of the organs concerned in parturition will help further to elucidate and to emphasize their physiology. The uterus receives the impregnated ovule from the Fallopian tube, nourishes it through the peculiar organs developed during gestation, preserves it from harm and injury, and at the time when it is able to thrive alone, by its contraction and retraction, forces it into the canal which connects it with the external world—the vagina. The cervical canal meanwhile dilates to its full limit to permit the passage of the child from the uterus to the vagina. Through the continued contraction and retraction of the uterine muscle, aided perhaps by the hypertrophied muscles of the vagina, the adult fœtus is still further expelled in its course toward birth. The child finally reaches the vulva, where a few combined contractions of the uterine, vaginal, and perineal muscles effect its delivery. This sketchy plan represents the physiology of birth in a normal, uncomplicated case. These various stages of the birth act are accompanied by pain on the part of the parturient female of all the species of vertebrate mammals with which we are acquainted. The whole process of reproduction, indeed, from the beginning of the courtship by the male through conception, parturition, and nurturing of the young, is strikingly the same in all mammals (Darwin). Among mammals, further, we know that there is no other means of carrying out these important functions. The process itself is undeniably physiological, then, in that it is natural and is the only manner in which reproduction can take place in mammals.

Although parturition is more difficult, and hence more painful, in man than in the lower animals, especially the quadrupeds, the latter do not go through their labors painlessly. Cattle breeders and horse breeders furnish abundant evidence on this point. Darwin, quoting from the Proceedings of the Zoological Society for 1871, tells of the female hippopotamus in the Zoological Gardens, which, when she produced her young, suffered greatly; she incessantly walked about or rolled on her sides, opening and closing her jaws, and clattering her teeth together. We find, too, on the authority of good observers, that animals kept in domestication have difficult and sometimes dangerous labors and not infrequently require assistance. The difficulties and dangers attendant upon parturition in the human species can not be accounted for alone on the ground of culture and civilization. Although savage races are reputed to give birth to their children while on the march, and are said to suffer less actual pain in the act of parturition, we have some excellent authority to the contrary. Professor Franz Boas, the widely known anthropologist, who has had much experience among the Eskimos, has told me that the women of the tribes suffer from the pangs of childbirth as severely as the women of the white races. They make less of their pain, however, being of a phlegmatic temperament, and their susceptibilities to pain of all kinds being lower than those of the inhabitants of the more temperate zones. From the observations of many writers we know that faulty positions are not uncommon among the less civilized peoples, and the treatment of these conditions among the primitive tribes forms one of the most interesting obstetric chapters. Since civilization does not alone prescribe the limits of painless or easy confinements, we must seek the cause of the difficulty and pain of human labors in man's anatomical structure. Here we find elements which are of a determining character. The upright posture of man, calling for a compact and well-knit pelvis, distinguishes him from the quadrupeds. The perinæum in man is called upon to bear the weight of the viscera, and thus offers great resistance to the parturient forces at the time of labor. The pelvic canal is almost straight in the lower mammals, while in man it is curved. In the quadrupeds the head of the fœtus passes the sacrum before it reaches the resistance of the pubic bones; and when it is opposed by this bony structure, the freely movable cauda is at the opposite pole to reduce the resistance. If we add to these elements the movable sacro-iliac joints, the frequent separation of the pubic bones, the weakness and consequent easy stretching of the perinæum—because it is not obliged to support the abdominal viscera—we have abundant anatomical reason for the easier parturition of the lower mammals. But even with these advantages, the quadrupeds, especially those of a higher grade of development, are not free from the pain of parturition, for evidence on this head is overwhelming. If, indeed, the pain attending parturition were confined to man alone, there might be some justification in assuming that in the course of his descent some factors had made him more susceptible to pain than were his ancestors; or that his endurance of pain had become minimized. This we find not to be the case. Other mammals offer to the contrary convincing data, and man appears to be able to endure physical pain as well as lower animals. This can be seen in the endurance of pain in soldiers and in those whose susceptibilities have been lowered by their manner of life. Martyrs at the stake seem to disregard their physical pain in the ecstasy of patriotic or religious frenzy. The mental condition of the parturient woman may be compared to that of the soldier on the battlefield or to the martyr at the stake. The elation and excitation incident to maternity, the love of offspring natural even to the most depraved, the innate, uncontrollable desire to suffer for the good of the species—these factors are important in helping her endure the pain which is unavoidable. It has always seemed to me, too, that women giving birth to illegitimate children appear to suffer more actual pain in childbirth than their married sisters, to whom the advent of a child is less of a disgrace if not always more welcome.

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* Read before the Metropolitan Medical Society, September 26, 1899.

† S. Marx. The Management of Normal Labor. *New York Medical Journal*, February 25, 1899.

It would be illogical, in the light of modern biological work, to attribute temporary or permanent benefit to physical pain; for all evidence goes to show that organisms receive vital force—which may be translated into benefits—from those things which are pleasurable, while they are depressed by acts, necessary though they may be, which are painful. They may, indeed, receive permanent injury from the latter in so far as the sum total of vital force is concerned. Yet we know that in both the animal and the vegetable worlds reproduction is achieved only by the expenditure of energy, the sacrifice of strength or nutrition, or both, on the part of the parent forms. It will not be denied that the female, in a biological sense, is designed mainly for procreation. The mere fact, therefore, that in the act of so doing she gives up energy in the form of pain does not militate against the naturalness of parturition, for she but conforms to the general law. Further, we may assume that as each individual exists for the benefit of the species—though not in the sense of Schopenhauer—pain undergone for the benefit of the species is not detrimental to or antagonistic to the species. We see the most beautiful examples of sacrifice for the species in some of the lower forms of protozoan life, as in the gregarina, which reproduces itself by resolution into a multitude of still more minute masses, completely losing its identity as a parent. Among some of the infusoria, similar phenomena of encystment, rupture of the envelope, escape of numberless minute offspring, and, of course, complete obliteration of the parent takes place. In these instances, the death or complete annihilation of the parent occurs for the sole purpose of reproduction. Low as these forms are in the scale of life, the same genetic principle applies to the higher forms; and we may well assume that the pain experienced by mammals in parturition is an exemplification of this principle. And what is natural, first, and common to all species, secondly, can not be pathological in the sense in which we are accustomed to use the word.

Let us now regard this subject from another view by taking a short survey into the causes of pain in the act of parturition in the human female. We find that the pain is due to two factors which are so integral a part of the birth act as to be inseparable from it: First, the stretching of the parts; second, the efforts of the uterus against resistance. These two elements are not distinctly separable during parturition, for the uterus is working against resistance of the soft parts at the same time that these are being dilated for the passage of the fœtus. The first element in the genesis of pain lies in the stretching of the cervix, and is due to the dilatation and the tension of the cervical attachments. This pain is referred by the parturient woman to the lower lumbar and sacral regions, a fact in consonance with clinical experience; for we find that pain originating in the cervix, or caused by moderate or severe irritation of that part of the uterus, is mainly referred to these spinal regions. A little later, when the uterine muscles begin to exert pronounced effects, the uterine attachments are put upon the stretch as the fœtal head advances and encounters the resistance at the pelvic brim. Each effort of expulsion is then accompanied by pain arising from the tension of these attachments. As labor still further advances, the vagina and the vulva must be stretched for the passage of the fœtal head and shoulders. These are more sensitive than the other parts of the genital tract involved in the act of childbirth, and the pain toward the end of labor is, therefore, usually intense, amounting at times to keenest agony as the head passes over the perinæum.

The pain evoked by the contractions of the uterus against the resistance of the soft parts which the fœtus must traverse must next be considered. This pain may or may not be proportionate to the degree of resistance encountered. In primiparæ the resistance is usually greater than in women who have previously borne children, since the soft parts have not been stretched before. Multiparæ, however, who have weakened or atonic uterine muscles *because* they have been through the process of parturition, may suffer greatly; for, although the soft parts offer less resistance, the uterine muscles are not equal to the task before them.

We see, then, that the agonies of parturition are due to factors which are inseparable from the act of birth, and are to be traced to purely physical causes dependent upon the anatomical structures involved. Assuming that it is granted that the manner of giving birth is free from pathological features, it follows as a corollary that incidents inseparable from it must also be devoid of pathological significance. And it is important to recognize that injuries incidental to parturition, whether these take place in a normal or in an abnormal position or presentation, are separable and distinct from the pain proper and can not therefore be logically assigned as pathological causes of pain in labor. Temporary mental disturbances appearing post partum and shock have been attributed to the pain of parturition. Although it is likely that other factors were responsible for these pathological sequels, the contention may have a basis of truth. I will admit it, at least, for the sake of argument. But in the former case, mental aberration will usually be found dependent upon a vicious heredity, and shock may easily supervene in an otherwise uncomplicated case in an organism debilitated or especially susceptible to influences which in another body would be productive of no untoward symptom. However, the proper position to hold at the present time with regard to the unusual disturbances of pregnancy and the puerperium is, that these are not to be regarded as entities due solely to the functions of gestation and parturition, but as incidents thereof, these functions playing no ætiologic rôle, or, at most, an inferior one.

As we have seen, the pain of childbirth is due to factors which have to do entirely with the birth canal. It is notorious, however, that it is no greater nor more difficult to bear when this canal is narrower than it should normally be, or when the child's position is such as to render a birth more difficult than usual, although under these conditions the pain may be of longer duration because the act is longer in point of time. This delay, in fact, partakes of a physiological character, since it is due to the effort which is making for the adaptation of the child to the unusual or difficult passage furnished for its exit from the uterus.

The contention that of all the functions of the body which are important and necessary, parturition is the only one which is accompanied by pain and must therefore be non-physiological, is not, it seems to me, well grounded. The important functions of the bladder and rectum have been especially cited in the comparison of physiological functions as being free from pain. In the first instance, the vesical and rectal functions must be performed so frequently that severe pain—or, for that matter, any pain—in their execution would so work to the detriment of the organism that the continuance of life would be a great struggle. They are functions, further, which have to do with the vegetative life of the *individual* and have no bearing on the life of the species, as has the overwhelmingly important function of reproduction. Compared with the multiple performances of purely vegetative functions, that of genesis is an exceedingly rare occurrence. Moreover, the vesical and rectal pouches are easily opened under physiological conditions, there being no necessity for their remaining closed until the waste products they excrete attain a certain development, as we shall see is the case with the uterus and its fœtus. It is no argument of strength, although it is an alluring one, to contend that because most bodily functions are painless, painful ones bear pathological stigmata.

A logical necessity for the tightly closed parturient canal, with its enforced dilatation at the time of birth, lies in the protection afforded thereby to the fœtus during the entire period of gestation. Were it otherwise, the impregnated ovule would escape from the uterus soon after conception, or at once, and would perish. Among some of the lower forms of animal life in which uterine development is not possible or necessary, we find immediate escape of the ovule the rule. In sponges, polyps, and some of the coral animals the mature cells are simply ejected through the mouth opening from the intestinal cavity, or they pass out through the outer skin opening—as in the case of the hydra—or through an opening in the ventral wall specialized for the purpose. Indeed, this is the case in forms as high as worms, and even in a few of the vertebrated animals, as in the cyclostoma and a few of the fishes. But the impregnated ovule of the higher animals, including man, can not live outside of the body of the mother until a certain development has been reached. To secure to the fœtus the necessary protection, the birth canal therefore remains closed until this development has been accomplished. This means increase of size and subsequent dilatation of the genital tract to secure birth. Because this necessary stretching is combined with pain by no means proves its pathological character; for from the too brief sketch just given it is evident that the dilatation is not only in harmony with natural laws, but has a deep physiological significance, since it is an inseparable accompaniment of a process which from its inception is destined to produce a new individual in a manner at once safest, most protective, and most economical; in other words, in a manner economical to the species and safe to the mother and the offspring.

The very character of the painful uterine contractions—one of the main sources of parturient pain—is so beautifully adapted to the needs of mother and child that their physiological nature is self-evident. Were it not for the intermittent nature of these contractions the parturient woman would be unable to endure the tremendous muscular strain called for, and would become exhausted before the birth of her child. The fœtus, too, would perish in its birth from the cessation of the placental circulation due to the constriction by uterine muscle fibre. Pathologically, indeed, we find this actually to be the case.

It is granted among students of biology and ethics that physical pain is a stimulant to action. A common example may be cited in the fact that when we wish a horse to exert himself we whip him. Exhausted dray bullocks in India and Abyssinia are horribly tortured to rouse them to renewed effort. So in the female, the pain evoked during the second stage of labor is an incentive to further effort to get rid of her young. The action of the abdominal muscles, which play a very important part in the expulsive forces of the second stage, is a voluntary one. Under the stimulus of the expulsive efforts they act automatically, but can still be held under the control of the patient. Even in the agony of the final pains, the woman, by opening her glottis and screaming, can suspend the action of these muscles. This has well been called by Tyler Smith the safety-valve action of the glottis. But women do not, as a rule, attempt to control these muscles. They "bear down," as it is called, and follow the instinct to do so naturally. The expulsion of the fœtus is facilitated by this tremendous *vis a tergo*, which still remains voluntary, although it is automatic. We may attribute the action of the abdominal muscles to two causes: 1. To the natural, therefore physiological, efforts at expulsion. 2. To the stimulant effect of the pain inducing a voluntary, though at times automatic, added effort to get rid of the pain-producing element, even though greater pain is caused by the muscular action. We might add as a corollary to this that those women who have inefficient pains—that is, poor contractions of the uterus or the abdominal muscles—have less pain than those whose contractions are vigorous, and their labors become pathological and end usually by artificial assistance.

There is still another reason, partly physiological, partly biological, for assuming that the pain of parturition is of a truly physiological nature. This is the lack of the revivability of the memory of the pain. The pain of other agonies is, as a rule, keenly remembered; but it is notorious that women forget the pain of parturition within a few days or weeks of its occurrence. This is in accordance with the views we have taken of the pain, for from the biological standpoint it is important that the pain should be forgotten, or at least its agony, lest its presence in the memory be a deterrent from further efforts at procreation. This inability to recall the pain of parturition is, as well, a proof of its physiological character, as it is equally well known that pain of a pathological nature, or one evoked by a pathological process, is subsequently easy of description and is not lost in the memory.

To consider in detail the steps by which the mammal has reached his present mode of reproduction would lead us too far afield. We have seen, discussing the necessity for a closed parturient canal in the mammal, that almost all conceivable methods for the expulsion of the mature fœtus exist among animals. Interesting as the subject is, we can not now consider the multiple varieties of reproduction, beginning with simple fission and ending with the birth of a human being. But in the course of the evolution of these processes—from simple fission to budding, then the budding of a particular part, next the placing of the budding organ in an interior cavity for greater safety, then increasing complexity of the reproductive organ, finally sexual reproduction, with its wonderfully manifold variations—in the course of the evolution of these processes, I repeat, the mode of inclosure in an internal uterus, as we know it in the human female, was evolved as a true variation. It may be objected to with some show of truth that, if the variation is a true one, its function should not be accompanied by pain. But Darwin himself, in the discussion of the laws of variation, states the significance of correlation. And he has shown conclusively, I think, that many modifications are of no direct service to the individual, having arisen in correlation with other useful changes. Expressed in the terms of our discussion, this means that the pain which is incident to labor stands in direct relation to the manner of birth, the method of birth, again, being a useful modification or change—useful to the species, since its continuance is subserved; useful to the new being, since its safety has been conserved.

I regret that I can not go more deeply into this subject on the present occasion, for I have but scratched the soil. I hope, however, that I have adduced arguments sufficiently lucid and strong to prove that our conception that the mode of reproduction in mammals is physiological is correct and scientific. Briefly summarized, these are my contentions in behalf of this view.

1. What is natural can not be pathological. The functions of the uterus are natural and include the reception of the impregnated ovule, its nourishment and retention until development is complete, and then its expulsion.

2. During the intra-uterine life of the fœtus the parturient canal remains closed for the protection of the fœtus. Its dilatation at the time of labor is painful because sensitive parts are stretched. The pain is therefore inseparable from parturition. Parturition being natural, it follows that inseparable incidents are also natural.

3. This pain is common to all animals which give birth to their young from a uterus with a placental attachment.

4. Compared with other important functions, parturition is a great rarity. If the commonly repeated functions were painful, the species could not continue its existence. There would be no gain in having the vegetative functions painful. The one is in the life of the individual, the other in the life of the species.

5. The uterine contractions are chief among the causes of the pain. Their intermittent character, which provides safety for mother and fœtus, proves their physiological nature.

6. The pain of parturition in the second stage is a stimulant to renewed effort for the expulsion of the fœtus.

7. The lack of revivability of this pain in the memory soon after its occurrence, while pain of another character is easily remembered, proves its biological importance.

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OBSERVATIONS UPON
FLAGELLATED MALARIAL PLASMODIA.[*]
DESCRIPTION OF TWO VARIETIES.

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Ever since the discovery of the plasmodium of malaria by Laveran the nature and significance of the flagellated organism have constituted a mooted question. Held by some authorities to be of a degenerative nature, and by others as evidences of vital activity, the flagella have been closely studied, and a considerable literature has been accumulated concerning them. In the light of recent research, it can no longer be doubted that the evolution of the flagellated organism is a vital and most important phase in the life history of the plasmodium, and that the theory that it is a degenerative body must be abandoned.

During the past seven months I have had the opportunity of studying the blood of a large number of soldiers returning from Cuba and suffering from tertian and æstivo-autumnal malarial fevers, and one of the points of greatest interest has been the study of flagellated organisms. As the result of these studies I believe that there occur in the blood of cases of tertian, and especially in the blood of cases of æstivo-autumnal fever, two forms, or perhaps varieties, of the flagellated organism. Before describing them, a few words regarding the best way of obtaining flagellated organisms may be of interest.

Method of Obtaining Flagellated Organisms.—It is a well-known fact that under ordinary circumstances flagellated plasmodia do not appear in a specimen of blood until some time after it has been removed from the body, generally from fifteen to twenty minutes. This rule has exceptions, however, for I have seen flagellated organisms in a blood specimen which had only been removed two minutes from the circulation; this is a rare exception, and even in specimens long removed from the body flagellated bodies are not always found. I have found the following method of obtaining these bodies at once simple and effective. The finger or ear is carefully cleansed with alcohol, as are also the slides and cover glasses. A small elastic band is now placed around the finger, or, if the lobe of the ear is used, it is compressed by an assistant. The puncture is made with a sterile needle or lancet and the first drop of blood wiped away. A second drop is now squeezed out and allowed to remain exposed to the air until the slide is breathed gently upon by the operator, when the tip of the drop of blood is gently pressed upon the surface of the slide which has been breathed upon. The cover glass is then immediately placed over it, and the preparation is ready to examine. The slight exposure to the air, and the small amount of moisture upon the slide caused by breathing upon it, seem to hasten exflagellation, for specimens so prepared almost invariably contain flagellated bodies. In specimens prepared in this way I have seen as many as twenty flagellated bodies in one preparation, and have often observed two in a single field. In my observations upon the bodies in question I have used this method exclusively, and have never experienced any difficulty whatever in finding material —*i. e.*, flagellated bodies—for study.

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[*] Published with the permission of the surgeon-general of the army.

Description of Flagellated Forms.—As has been stated in the early part of this paper, in many cases of tertian malarial fever, and almost invariably in cases of æstivo-autumnal fever, I have observed two seemingly distinct forms of the flagellated bodies. By this statement it is not meant that every case of tertian or æstivo-autumnal fever examined showed these forms, but that the cases showing flagellated bodies presented them. While the two forms were often noted in tertian fever, they were by far the most common in æstivo-autumnal fever, and, as flagellation is generally conceded to be of vital importance in the life history of the parasite, this fact agrees with the well-known tenacity of the æstivo-autumnal infection. These two forms of flagellated parasites I have ventured to designate respectively as the active and passive flagellated plasmodium.

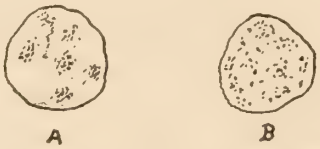

FIG. 1.—*A*. Large swollen pigmented body showing pigment in blocks. *B*. Large swollen pigmented body showing pigment evenly distributed.

Description of the Active Flagellated Plasmodium (Tertian Fever).—In examining a specimen of blood from tertian fever a number, sometimes only one or two, of large, almost circular, bodies are noted, with the characteristic pigment distributed over the surface, and in very active motion. The motion is aptly described as dancing, and is very much more rapid than that ordinarily present in the parasite, and at once attracts attention for that reason. Quite often, however, these swollen bodies will be seen, the pigment when first noticed being immotile, but suddenly developing very active motility while being observed. When the pigment is immotile it seems to be collected in small blotches or spots within the protoplasm of the parasite, but when in motion it is distributed quite evenly throughout the protoplasm (see Fig. 1, *A* and *B*). Besides the very active motion of the pigment granules, if the edge of the parasite is carefully watched, it will be seen that it also is in motion, undulating and protruding, as though, as Richard said, something contained within the parasite were trying to escape. In a variable length of time—from five minutes to half an hour or more—the pigment will be seen to collect more centrally, the motility being somewhat lessened, and instantly, like an explosion, there appear at certain portions of the edge of the parasite long, thin, colorless, actively moving filaments, which undulate rapidly, lashing about among the red corpuscles, to which they impart sometimes a peculiar spinning motion. The filaments may number from one to five, and are usually long and thin, having a slightly clubbed extremity (see Fig. 2). The junction of the flagellum with the parasite is not visible, it seeming to be continuous with the periphery of the organism.

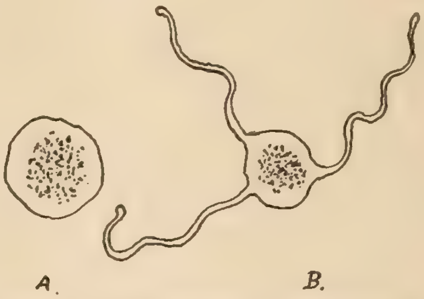

FIG. 2.—*A*. Parasite just prior to flagellation. *B*. Flagellated parasite showing clubbed ends of flagella.

Besides the clubbed extremity, the flagella sometimes show small nodular swellings in their course, and also a few grains of pigment, which may be distributed along them or collected at the extremity (Fig. 3). They generally measure about two or three times the diameter of the parasite from which they spring, but sometimes may be even longer. There also occur shorter, stouter forms, having a more sluggish, serpentine motion (Fig. 3).

There may now occur one of several things: either the flagella may break loose from the parent parasite, or they may become gradually motionless and disappear, or they may fold themselves around the parasite, which shrinks and degenerates, or the parasite may itself fragment and the flagella degenerate and disappear.

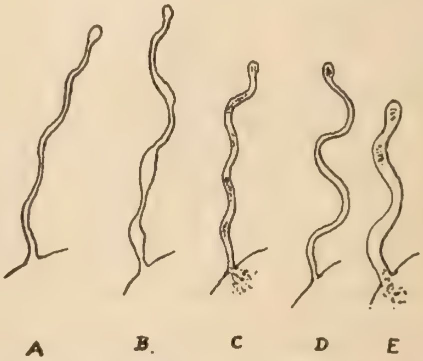

FIG. 3.—Types of flagella. *A*. Flagellum showing clubbed extremity. *B*. Flagellum showing nodular swellings. *C*. Flagellum showing pigment within it and at its extremity. *D*. Flagellum showing pigmented extremity. *E*. Flagellum short, thick, and pigmented.

In the first case, after the flagellum has lashed about among the blood-corpuscles for a variable length of time, seemingly trying to free itself from the mother parasite, it at last succeeds, and swims off in a serpentine manner among the red corpuscles (Fig. 4). In some cases the flagellum tugs very vigorously in its efforts to free itself, actually pulling the mother parasite about, but, of course, for only a minute distance. After it has become free it may exhibit motion for a long time, even an hour or more. If it chances that the flagellum was the only one given off from the mother parasite, the pigment of the latter becomes motionless, the parasite quickly shrinks, and soon only a mass of pigment and degenerated material remains (Fig. 4).

In the second case, after persisting for some time, from half an hour to an hour or more, the flagella gradually become motionless and disappear, while the pigment ceases moving and the body of the parasite shrinks, becomes vacuolated, and soon presents a mere clump of *dêbris*.

In the third case, after a certain time, the flagella become less actively motile and seem to become entangled with the body of the parasite, thus seeming to be folded about it, sometimes loops being formed by the attachment of a flagellum to the mother parasite. The pigment in the body of the parasite becomes motionless and the same degenerative changes occur as in the former case (Fig. 5).

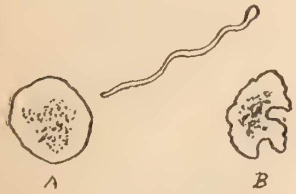

Fig. 4.—*A.* Free flagellum which has just escaped from parasite. *B.* Shrunken degenerated parasite after exflagellation.

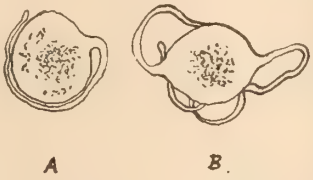

Fig. 5.—*A.* Tertian parasite with flagellum folded upon it. *B.* Tertian parasite with flagella forming loops about it.

In the last case the parent parasite, either after the escape of one or more flagella or in cases where no escape takes place, breaks up into two or more parts, each part containing pigment, which remains in active motion for some time. On careful observation it will be seen that the fragments are united by very delicate hyaline threads. The flagella soon lose their motility and disappear, but the fragments containing the pigments may persist for a long while. In one case the pigment was seen to be in active motion in one of the fragments of such a parasite after a period of eight hours, at a room temperature of 70° F.

In Fig. 6 is sketched the process of fragmentation as observed in a flagellated organism.

The form of flagellated organism just described is the most common form found in the blood of tertian malarial fever. The same form is also found in æstivo-autumnal fever, but varies somewhat in morphology, but in unessential particulars.

In æstivo-autumnal malarial fever the active flagellated form of the malarial parasite is smaller in size than is the same form in tertian malaria, is more oval in outline, as a rule, and the pigment is somewhat more coarse, and sometimes arranged in a wreathlike form. These differences are illustrated in Fig. 7. The same phenomena are observed here as in the case of the tertian flagellated organism, and which have just been described.

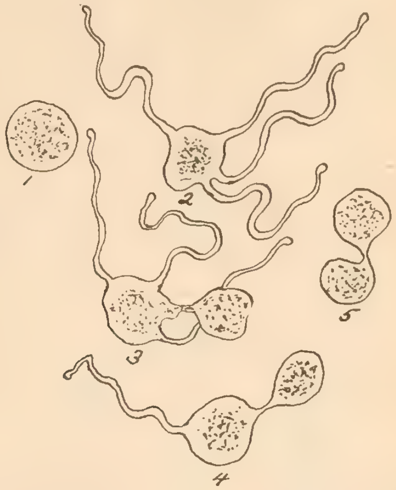

Fig. 6.—Fragmentation as observed in tertian flagellated parasites. *1.* Parasite prior to flagellation. *2.* Parasite showing four flagella. *3.* Parasite becoming fragmented into two portions. *4.* Further development of fragmentation, all but one of the flagella having disappeared. *5.* Fragmentation complete. All the flagella have disappeared, and the parasite has divided into two nearly equal portions.

The chief facts to be noticed in our study of the form of flagellated malarial parasite which we have chosen to call the active form are: the extreme activity of the pigment in the parasite prior to exflagellation and during the time the flagella remain attached to it; the clubbed extremity of the flagella, and the separation and consequent individual existence of the flagella, and their power of individual and progressive movement in the blood.

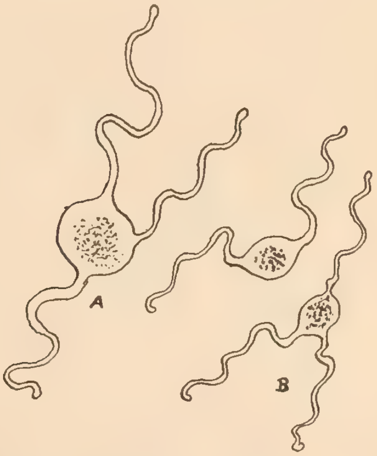

Fig. 7.—*A.* Flagellated tertian malarial parasite. *B.* Flagellated æstivo-autumnal malarial parasite, showing smaller size, more oval outline, and more compactly collected pigment.

Description of the Passive Flagellated Plasmodium (*Æstivo-autumnal Fever*).—The form about to be described occurs also in tertian malarial fever, but in much smaller numbers than in æstivo-autumnal fever, so that I have chosen to describe it as it occurs in the latter form of fever, the only difference being that it is larger in the tertian fever. Before describing it, however, it should be understood that not every case of æstivo-autumnal fever shows flagellated organisms. They will only be found in the peripheral blood in those cases of fever showing crescents, for it is from the crescent that they develop. It is not often that one has the good fortune to witness the development of the crescent into a flagellated organism, and the following observation is therefore of importance. In observing a sample of blood from a case of æstivo-autumnal fever which was particularly rich in crescents, I observed a medium-sized crescent entirely inclosed within a red corpuscle, occupying about one half of it. While under observation the crescent suddenly seemed to expand into a round body, the pigment, motionless, occupying the centre. After about ten minutes this round body suddenly became free, the red corpuscle seeming to melt away from around it, remaining as a pale shell close to the now free round body. Within a short time, probably about five minutes, the pigment within the round body became motile, at first slowly, then very rapidly, distributed throughout the protoplasm of the organism, and suddenly two flagella shot forth from opposite sides of the parasite. One of these afterward became detached and was lost sight of; the other, after persisting for about half an hour, ceased moving, and it and the body of the parasite became shrunken and degenerated. This observation conclusively proves two things: First, that the crescents are developed within the red blood-corpuscles, and second, that the active flagellated parasite is developed from the crescents (see Fig. 8). It will be noticed that in the above observation it was the active flagellated parasite which was developed, and not the passive form, which will now be described.

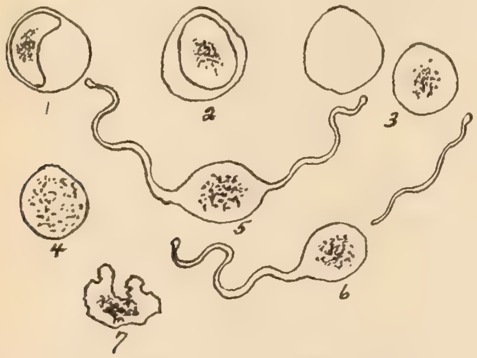

Fig. 8.—Process of flagellation in æstivo-autumnal parasite. *1.* Crescent inclosed entirely within red blood-corpuscle. *2.* Crescent cell, having expanded into a round body within the red corpuscle. *3.* Round body, which has escaped from the red corpuscle which remains as a pale shell beside it. Pigment motionless. *4.* Round body with active pigment. *5.* Round body sending out two flagella. *6.* Round body with one flagellum detached. *7.* Shrunken and degenerated parasite.

The Passive Flagellated Parasite (*Æstivo-autumnal*).—I have chosen to describe this form as it occurs in æstivo-autumnal fever, because it is most numerous and most characteristic in the blood of such cases.

In the blood of those cases of æstivo-autumnal fever containing crescents will be noticed numerous round and oval bodies in which the pigment is arranged in a wreath-like form. These bodies seem to be of two kinds. First and most numerous are those in which the pigment is of rather dotlike or rodlike form, and fine, sometimes motile and sometimes not, and those, fewer in number, and almost always round, in which the pigment is arranged in large black or dark-brown dots, in a perfect circle, and almost never motile. From the first variety arise quite often the active flagellated organism, which has already been described; from the last, the passive flagellated organism. These two forms are illustrated in Fig. 9.

The last-named round bodies merit a more minute description. They are clear cut and definite, perfectly circular, and appear to possess a somewhat granular protoplasm; the pigment is arranged in round, very dark dots, forming a perfect circle, which may, however, be arranged to one or the other side of the protoplasm of the organism. The pigment is generally nonmotile, but occasionally a peculiar trembling motion may be observed; but the pigment retains its circular arrangement always, unless degenerative changes occur (see Fig. 10).

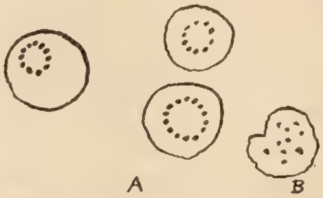

Fig. 9.—*A.* Round body with pigment in perfect ring. Seldom motile. *B.* Round body with pigment more evenly distributed and often motile.

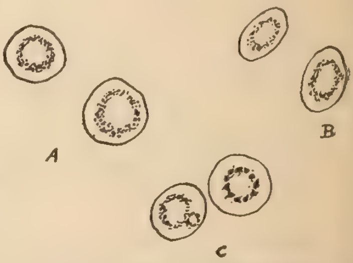

Fig. 10.—*A.* Round bodies with pigment in wreath form. *B.* Oval bodies with pigment in wreath form. *C.* Round bodies with pigment in larger blocks.

No matter how long such a round form is watched, it will never be seen to present the phenomena of exflagellation. The pigment does not become active and distributed throughout the protoplasm, nor do flagella emerge from within it. But in examining blood containing these bodies some of them are seen to possess one, two, or more flagella. These flagella are somewhat peculiar. They seldom possess a clubbed outer extremity, as in the case of the active flagellated body, but at their juncture with the round body a nodule is often noted which resembles exactly the clubbed extremity of the flagellum of the active flagellated body. The movements, also, of these flagella are peculiar. Instead of the rapid serpentine lashings seen in the flagella as put forth from the active parasite, the movements were of a different character. The flagella seem to straighten and then relax, revolving apparently very rapidly upon their axes; sometimes they may be seen to pull themselves loose from the round body and again become attached to it. In the meanwhile the pigment within the round parasite has maintained its circular form, and is, at most, very slowly motile (see Fig. 11).

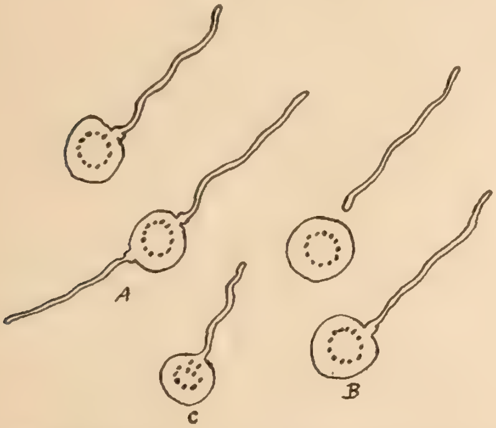

Fig. 11.—Passive flagellation as observed in æstivo-autumnal malarial parasite. In these figures note circular arrangement of the pigment, the flagella without clubbed ends, and straight outlines. In one figure a flagellum is seen just before attachment to the round body.

Sometimes no nodular swelling is noted at the point of attachment of the flagella, and in such parasites the pigment has a more rapid vibratory motion.

This same form occurs in tertian fever, but is larger, the pigment is less regularly arranged, and it is very much more rare.

The question arises, What do these forms of the malarial parasite signify? A few months ago, in a conversation with Dr. Thayer, he mentioned the occurrence of these peculiar flagellated bodies, and thus called my attention forcibly to the fact of their occurrence, which I had noted but had not paid much attention to. Since that time I have convinced myself that these forms occur, not as a rarity, but very often, and that they represent, as has been suggested by McCallum, the efforts of flagella, which have been set free in the circulation, to penetrate into the interior of a parasite, represented by the round bodies just described. While I have not been so fortunate as have McCallum, Thayer, and others as to have actually seen the disappearance of a flagellum within one of these parasites, I am convinced that this does occur from what I consider sufficient evidence to prove the fact. From the appearance and character of the motion of the flagella, and the passive condition of the organism to which they are attached, it seems to be impossible to believe other than that these flagella are striving to push their way into the parasite, and the fact that flagella have been seen to become detached from the parasite and again attach themselves to it, is almost conclusive proof that such is the fact.

The circle of events is, then, I believe, as follows: The *active flagellated organism* is developed from the full-grown tertian organism and the crescentic æstivo-autumnal organism. Flagella are produced and liberated, the mother organism, her duty fulfilled, degenerating and perishing. The free flagella swim actively about among the blood-corpuscles until they come in contact with the peculiar round, passive parasite, which they endeavor to penetrate. McCallum and Thayer have seen this penetration occur, one of the flagella becoming submerged, so to speak, within the substance of the parasite.

The nature of the process we are as yet ignorant of, but these two varieties of flagellated parasites do occur in the blood in malarial fever, and the observations upon them so far conclusively prove that the flagellate body is not a degenerative body, but is, without doubt, a very highly developed vital form of the plasmodium of malaria. It is but reasonable to suppose that these forms are calculated to preserve the life of the parasite outside of the human economy, as they arise only when the blood has been exposed to external conditions, and that we have in this process another proof of the extra-corporeal existence, in another form, of the malarial parasite.

My thanks are due Dr. Thayer for his suggestions regarding the forms described, and which prompted this research.

Note.—Since the writing of this article I have had the opportunity of confirming the observations noted at the United States General Hospital, Presidio of San Francisco, in cases of malarial fever in soldiers returning from the Philippine Islands. To Colonel A. C. Girard, commanding officer of that hospital, and to Major Charles Richard, late commanding officer of the Simpson General Hospital, my thanks are due for their kindly interest shown and the facilities offered for the study of the subject.

A REPORT OF

THE OPERATIVE TREATMENT OF SEVERAL CASES OF FRONTAL AND MAXILLARY SINUSITIS.*

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The operative treatment of chronic purulent inflammation of the frontal sinus has still enough freshness of interest to warrant a report of the details of a case upon which I have operated successfully. Briefly stated, the history is as follows:

Mr. B., aged thirty-eight years, was attacked by epidemic influenza in February, 1898, with severe pain over the left eye, followed by free purulent left-sided nasal discharge, at times of an offensive odor. For a number of years he had been subject to hay-fever symptoms in the summer time, with occasionally wheezy breathing, especially if in the country. When first examined in September, 1898, there was free offensive purulent discharge from the left nostril. There were left supraorbital pains and tenderness at times of the left eyeball. The general health was somewhat impaired.

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* Read before the American Laryngological Association at its twenty-first annual congress.

Examination showed some crusts and muco-pus beneath the left middle turbinate. There was slight tenderness on pressure over the left antrum and left frontal sinus. Antral translumination showed relative darkness of the left malar region. An imbedded root of the left superior second bicuspid was extracted and found sound and not penetrating the antral floor. The floor of the antrum was broken through and the alveolar opening enlarged, after which a large amount of very offensive pus was syringed from the antrum. This treatment was kept up for a month by the patient at his home at a distance from Buffalo. There was then a very little flocculent discharge from the antrum without offensive odor, but pus continued to drain from the extreme anterior portion of the left middle turbinate immediately after the antrum was syringed clear. The anterior extremity of the left middle turbinate was then removed. In another month the patient reported with an increase of discharge from the left nasal chamber, and occasional left supraorbital pain, followed usually by increased nasal discharge. There was slight tenderness on firm pressure over the left frontal sinus. Frontal translumination was excellent on the right side and revealed a large sinus. There was darkness over the left supraorbital region. The left antrum contained a large amount of pus and presented the usual signs of antral empyema.

Opening of the frontal sinus was now recommended. In January, 1899, the patient, who had lost weight and whose general health was beginning to fail, consented to the operation. On January 25th, at the Buffalo General Hospital, after shaving the left eyebrow, an incision was made along the inner half of the left supraorbital ridge to a little beyond the middle of the glabella, the soft parts and periosteum were retracted, and the anterior wall of the left frontal sinus opened with a small trephine. The sinus was found filled with a greenish, offensive pus. The incised tissues were protected by a dam of iodoform gauze and the sinus flushed with normal salt solution until pus no longer welled up. The sinus was large, extending far over the left orbit. Its walls were thoroughly curetted and the nasofrontal canal, located by a curved probe, was enlarged with a trocar and curette until an ample opening communicated with the nasal chamber, presumably through the anterior ethmoidal cells. A strip of iodoform gauze was introduced into the nasal chamber through the enlarged infundibulum, as suggested by Bryan, and the external incision closed by silk sutures. A dressing of gauze and cotton was applied and retained by bandages. Intranasal insufflations of iodoform were made every three hours, after gentle spraying of the nose with normal salt solution. No other treatment was given. There was no rise of temperature. The gauze drain was removed on the third day. On January 30th, the sixth day, the wound was redressed and the stitches were removed. There was good union. On February 1st, the eighth day, the patient was discharged from the hospital. The left antrum on syringing was found entirely clear and no subsequent unusual discharge occurred from the left nasal chamber. There has been no return of symptoms of disease.

The points of interest in this case history are the masking of the primary frontal empyema by the symptoms and signs of the secondary antral abscess; the persistence of the antral discharge despite drainage and cleansing of the antrum, and its immediate cessation as soon as drainage of the frontal sinus was secured. I dressed the wound after suturing with cotton pad and bandage in preference to any form of collodion dressing. It seems to me that the difficulty of securing good union after evacuating so infected a cavity is increased by any dressing that confines the exudate about the wound and prevents evaporation. As there were no indications for intranasal interference after the operation, no syringing of the frontal sinus was employed. Thorough drainage having been secured, the parts were left to Nature, the nose alone being gently sprayed and its mucous membrane kept under the influence of iodoform.

I wish to report three operations for chronic antral empyema in which I followed the method of Luc, with the details of which I was first made acquainted through a communication of Dr. de Roaldes's.* Each of these cases was of great chronicity, and one presented a double empyema. As I wish to present for discussion only the operation employed, I give the case histories but briefly. In each case I followed the usual steps for laying bare and opening the anterior wall of the antrum, and I will confine the descriptions to the novel features of the operation—the opening of the nasal wall of the antrum beneath the inferior turbinate and the immediate closure of the gingivo-labial incision. I found the hæmorrhage following the incision into the gingivo-labial conjunctiva lessened by an injection of a one-per-cent. solution of cocaine hydrochloride beneath the mucous membrane just as the anæsthetic was about to be administered. In one case, in which I had been treating the antrum through Freeman's cannula beneath the inferior turbinate, I was able to reduce the hæmorrhage, that is so profuse when the antrum is opened, by injecting into the antrum just before the operation about a drachm of a solution of suprarenal capsule.

Case I.—Miss S., aged thirty-seven years, empyema of left antrum, marked by moderate discharge and at intervals deep-seated pain in the malar region. On February 9, 1899, at the Buffalo General Hospital, with trephine and bone forceps I removed part of the anterior wall of the left antrum. There was no particular difficulty in breaking down the nasal wall beneath the inferior turbinate. I passed a curved trocar within the nostril and beneath the anterior extremity of the inferior turbinate and readily broke down the thin antral wall. Using the point of the trocar as a guide through the freely welling blood within the antrum, I enlarged the opening freely with a sharp spoon. I encountered great difficulty in endeavoring to pass an iodoform-gauze drain from the antrum through the nasal chamber and out at the nostril. I closed the gingivo-labial incision with silk sutures. The escape of air through this aperture for several days when the nose was blown showed that the closure was imperfect. However, by the fifth day, when the stitches were removed, the incision was closed. A small area of numbness about the left angle of the mouth was noticed for several days after the operation. After the fifth day the antrum was flushed by means of a Eustachian catheter through the opening in the nasal wall. A slight amount of muco-pus escaped at each washing. After several weeks the nasal opening contracted so that a small cannula could not be introduced and there was some return of pain. Under cocaine I cut away the anterior dependent portion of the inferior turbinated bone and with a sharp spoon enlarged the opening into the nasal wall of the antrum. This procedure was followed by relief, and on April 27th the patient was discharged apparently well.

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* Considerations of the Radical Cure of Chronic Empyema of the Antrum of Highmore. *New Orleans Medical and Surgical Journal*, December, 1898.

Case II.—Mr. B., aged twenty-one years; double antral empyema, with chronic cough, expectoration, and naso-pharyngeal hypersecretion. At the hospital, on February 13, 1899, I opened the anterior walls of both antra. The hæmorrhage was very free; the anterior antral walls presented an unusually small area for operation, and they were unusually thick. In consequence I was not able to secure entirely satisfactory access to either antrum. I was unable to pass gauze or drainage tube through the perforation in the nasal wall, and, as the hæmorrhage was very free and the patient's condition not first rate, I did not carry the operation beyond as thorough a curetting of the antral walls as was possible. I persevered in the original plan of the operation, however, closing one side with stitches and allowing the other to fall into place without stitches. The unstitched side healed apparently as firmly and as speedily as the other. A large area of numbness on the right side followed the operation, extending from the lower margin of the orbit to the upper lip as far as the median line and somewhat over the labial mucous membrane. This gradually disappeared. The patient was compelled by business engagements to go to his home in a neighboring town soon after the operation, and I was able to see him only at rather long intervals. The nasal openings rapidly contracted so that I was unable to flush the antra satisfactorily through the nose. Had drainage tubes been introduced the patient could probably have irrigated his antra himself. The result of the operation has not been satisfactory and I await an opportunity to repeat it.

Case III.—Miss M.; left antral empyema, operated on at the Buffalo General Hospital, on March 9, 1899. The inferior turbinate was dependent and lay close to the antral wall. I removed the anterior portion of it to facilitate the passage of the trocar into the antrum. I did not introduce a drainage tube into the nose. After a counter opening had been made beneath the inferior turbinate the gingivo-labial incision was allowed to fall into place without stitches and union followed nicely in a few days. However, a small abscess occurred later on the margin of the wound requiring curetting. It did not communicate with the antrum. This case improved rapidly for several weeks. The antrum was readily flushed through the nasal opening, and I found injections of alcohol serviceable in reducing the discharge and lessening its purulent character. In about three weeks the nasal opening began to grow small and the discharage to be somewhat confined within the antrum. On April 19th I enlarged the nasal opening under cocaine with a curette, and have used since at intervals injections of alcohol and of a solution of iodoform in ether. Since May 26th there has been no unusual nasal discharge nor any symptoms of antral disease. Antral translumination is equally good, though there is no left pupil glow. This case, therefore, may be considered cured.

Valid conclusions as to the value of this operation can not be drawn from so limited a number of cases, but I offer their details for your consideration and discussion. The limitations of the operation and the proper choice of cases for its performance will be facilitated by reports of its results, whether successful or otherwise. I see several directions in which my own technique can be improved in subsequent operations. The introduction of the drainage tube I have found the most difficult step in the operation. To facilitate this, I have had made for me a modification on a small scale of Bellocq's cannula. Introduced through the nose and with the probe point thrust forward and upward into the antrum, it brings readily into reach the ligature to which the drainage tube or strip of gauze can be attached and then drawn through the opening in the nasal wall and out at the nostril.

The suturing of the gingivo-labial incision seems from my limited experience to be unnecessary. It is difficult to keep the stitches already inserted from being somewhat torn out during the later stitches on account of the manner in which the parts must be drawn upon to secure access to the lips of the wound.

The parts coapt readily without stitches and there is but little necessary motion of the gingivo-labial fold. The wound need not be disturbed if the patient is fed upon soft food, taking care in eating to use the side of the mouth opposite to the operation and to avoid blowing the nose violently. As shown by my second and third cases, healing occurs readily without stitches if a little care is used.

A WOMAN'S VIEW OF CHICKAMAUGA.*

By HELEN W. BISSELL, M. D.,
ST. PAUL, MINN.

The country was very beautiful on the July day when, in company with a graduate from Grace Hospital, Detroit, I passed through the Tennessee mountains on my way to Leiter Hospital. There were frequent showers during the afternoon, but instead of cooling the atmosphere they added a murkiness to it which rendered it almost unendurable. After our late dinner in Chattanooga we started on our way to Lytle, to take from there a carriage to Chickamauga, where we found that only the considerable rank of the officers who accompanied us made it possible for us to pass through the many lines of pickets thrown around the camp.

Leiter Hospital was a handsome hotel a few years

*** Read before the Minnesota State Medical Society, June 21, 1899.**

ago, broad of front, with wings running back from each end forming an open court, behind which stood Ward A, the old-time dancing hall, making a comfortable place for forty patients.

What was our astonishment on going up the steps to find a double row of beds filled with men! Some of them stirred and slightly rose as we came to the veranda, but the greater part lay quiet in their first sleep. There were about fifty of these soldiers, convalescents, who had been transferred from the wards in order to make room for acute cases.

The nurses' rooms, which were in the third story, were so crowded that at first we were obliged to take beds used by the night nurses. So cheerfully, however, were we invited to do so by the rightful owners that we felt at once we were in a place where, whatever might be its trials and inconveniences, there existed an unusual degree of hearty good will. This became more apparent as time went on, and it had its sources, first, in the patriotism of those engaged in the work, and, secondly, the high courtesy of the major-surgeon, Dr. E. C. Carter, of the regular army, a Virginia gentleman, who cared for and directed all.

A long-unused and hastily arranged building can not be made a perfect hospital, and the first view, to one accustomed only to the finished institutions of our large cities, was far from encouraging. As rapidly as possible suitable plumbing was put in the building, but for some time the work was greatly hampered by the structural defects of the building.

So rapidly were the first patients rushed into the embryo institution that it was necessary to take the place most nearly empty, which happened to be the billiard room in the basement. It was always damp, but the crowding was so great that it was simply a choice of leaving men on the ground in the camp, or putting some of them there. So far as I could learn, there were no evil effects from the location.

Army rations taken out of doors under tent flies, in all weathers, with cats, dogs, pigs, and chickens in daily attendance, with an occasional cow or mule to add an element of variety to the scene, was not ideal. But we petted the cats and threw crumbs to the chickens, so that when a fence was put around the grounds we really missed the rusticity of that part of our life.

Salt pork, beans, good bread without butter, and fair coffee, with a scant supply of milk, can not be considered desirable when the temperature is high above a hundred and one is worn from the humid atmosphere and necessary overwork. Oatmeal becomes infested with insects so rapidly that it can not be considered reliable in such a climate. After a time sufficient money came into the major's hands to allow of some additions to the regular fare, and during the latter part of our time we had little to complain of in that particular.

The convalescents, who ate at the same table and of some of the same articles, occasionally found fault, but the food supply for the really sick was above criticism. Milk, eggs, soups, toast, etc., in abundance, with the addition of ice, jellies, and canned fruits, provided by the various Red Cross and Daughters of American Revolution societies, made as full a variety as could easily be found in our best-equipped institutions.

I wish to state emphatically that I never knew supplies to be misappropriated. Great complaint was made about the non-reception of two boxes sent to the soldiers from our home society, so I looked up the matter, and criticism was stopped when one was found to have contained abdominal bandages instead of eatables, and another, filled with gauze dressings and plaster bandages, was regarded with disgust.

I was sent into one of the wings where there were large rooms for four and smaller ones for two patients, though it was necessary at times to put five in the larger and three in the smaller apartments.

On account of the extreme heat, most of the transfers from the camp hospitals were made at night, and as I was on duty at that time I had an unusual amount to do in the reception of patients. Most of them were from the Second Division and regimental hospitals. I could hardly credit my senses, many of the men were so dirty and neglected, and at times I was glad that a patient's temperature was found to be so high that he could be put into a bath for twenty minutes, for then between the soaking and the necessary friction he would become tolerably clean. Hardly one came in who did not require a full bath, and it frequently took three days to make the patient satisfactorily clean, for severe typhoid does not allow of as much moving and changing as one might desire.

Almost without exception the roughest soldiers became gentle and manageable, seeming like tired boys who had got home, and their efforts to use respectful terms and delicate language were pathetic through verbal mistakes. They were generally truthful, and I never heard more serious deviations from accuracy than the pardonable departures made by convalescents from typhoid fever as to the exact quantity of food that had been ordered by the doctors for their meals. They never complained of or regretted their illness; only felt it hard that it had come upon them while idle instead of during actual warfare. As a rule they were young, the greater portion being under age, and some of eighteen seemed more like homesick boys than martial men.

My work was principally among northwestern and southern men, and when I saw the powerful Dakota and Montana soldiers lying beside those equally strong and determined from Arkansas and Mississippi, I understood why the battles of the civil war were so terrible, and how with their strength combined our nation becomes invincible.

I was so distressed at the state of a Western soldier who was brought in dying that I went to his camp to find out the reason of his condition. I think that without exception he was the most splendid specimen of young manhood I had ever seen, and, while well nourished, his labored breathing showed meningitis had begun its work.

It was the day before the grand parade that I went with one of his comrades, carrying with me some supplies and money from my home Red Cross society. I saw first the captain who had command of my escort's company. When he found I had malted milk he asked for it at once for one of his soldiers who was on the ground, and for whom there was no place in the hospital. It was almost impossible to get a supply of milk, and the man vomited all else. Soon the captain confiscated the pajamas for other men on the ground, and after a few moments I gave him the money also.

After he had appropriated for his company all I had to give, he called the captain who had command of my dying boy, and again I heard the story of forced neglect. They both stated that there were that day from ten to twenty men in each company on the ground for whom there was no hospital accommodation.

It seemed intolerable that over one hundred men in one regiment should be thus treated in our great country, far away from any enemy, while thousands stood ready to aid them, and millions of money would have been poured out for their relief. In their small regimental hospital I found the cots so close together that one mosquito netting served for two, and in another tent the same crowded condition, but no protection from insects. The surgeon showed me some green netting that had been given which stained the skin so badly that he was not willing to use it on the men.

The water supply was in a two-gallon tin pail, well iced, but it was necessary to skim off the drowned flies before the patients had a drink.

The surgeon in charge was a faithful man and did all that lay in his power, but red tape made the procuring of supplies slow, and the kindest intentions could not make finished nurses from the men detailed from the ranks, especially as in most cases there were changes in the *personnel* from day to day, and many of the soldiers heartily detested the work.

I did not appreciate how frequently inferior men were placed in charge of hospital patients until I had a little man, named Pharoah, from the Ninth New York Regiment, whose one idea seemed to be to aid the others. As soon as he was able to be out of bed he began to help, until he had positively to be kept from doing himself harm. I asked him one day why he did not do such work in the hospitals. He told me he had applied for such a position, but they said, "No, Pharoah, no. You know how to march and do things. You are not the kind of man to be put into the hospital."

Dr. Clark, the major-surgeon of the Twelfth Minnesota, who did magnificent work in the Third Division Hospital, said to me: "I am doing all I can. The soldiers do not know how to do the work. Give me a dozen trained women and I will revolutionize this place. I have asked for them again and again, and have always been refused." Can you realize the difficulties under which he labored, when suitable drinking water had to be brought seven miles?

The Red Cross supplied ice abundantly, and I understood that with care there was enough for each hospital; certainly Leiter had plenty, though none to waste.

The oftener I visited the camp the more its natural advantages grew upon me, and I appreciated that for a smaller number of men and a limited period it might have been an ideal situation, but the unforeseen keeping of many regiments so long a time was a great cause of sickness. The rock came so near the surface that the heavy rains rendered what in dry weather were the most desirable camping grounds veritable swamps, and the difficulty of procuring pure water made many men careless of what they took. I asked one of my cavalry patients if he ever drank from the horse trough, and he said "Certainly," and that a large part of the men of his regiment did also, which carelessness would of itself explain much disease. They all confessed they were untidy in many ways, and disliked the work of keeping their camps clean.

As almost without exception the regimental officers were appointed by the governors of their respective States, the general government can not be blamed for much of the lack of discipline regarding sanitary matters, and in many instances the lack of supplies came through the ignorance of the officers regarding methods of securing them.

Too much can not be said against the army canteens as they existed at Chickamauga. Man after man told me that he could get any amount of moonshine whisky whenever he wished it, and that they had never heard of efforts being made to keep it out of camp. Raw corn whisky is one of the most injurious forms of liquor, and the soldiers frankly stated that they were sure much sickness could be traced to its use.

To give you a summary of my views as regards the nursing, I must say that never in our largest hospitals in Boston or New York have I seen more devoted care than was given by the women nurses to their patients, though from the climate, poor water, and necessary overwork, as high as seventeen nurses out of the forty at Leiter have been off duty at one time, and just before I left there were only twelve men of the hospital corps out of the forty-four at work. At one time we had four of them sick with typhoid fever in our ward. It was worth the toil and deprivations to hear the men say, as they did to me more than once, "We fellows think we've got to heaven when we've got to Leiter Hospital."

The most serious criticism I have to pass on the general management is that in so few instances were the nurses placed under a trained and responsible woman superintendent. Sternberg Hospital was favored for the fact that Miss Maxwell, acting under the authority of Dr. Anita Newcomb McGee, director of Daughters of the American Revolution Hospital Corps, selected her own nurses and looked after their interests from the first. Leiter, on the contrary, being opened months earlier, had nurses detailed there a few at a time, so there was never a definite head to that department, the steward looking after it in a general way in addition to his other duties. Though devoted and judicious, his work necessarily betrayed inexperience in that direction.

I was astonished to hear that there had been anywhere question as to the character of the nurses employed. Certainly at Leiter I never saw anything questionable, and I am sure that at Sternberg the same held good. A marriage between a nurse and assistant steward at one place and a corresponding engagement at the other could only be considered objectionable from the point of military discipline, certainly not of morals. There were many instances of friction between the Red Cross and contract nurses, which seemed to be almost a necessary result of trying to employ side by side persons engaged under different organizations.

I will here explain that those spoken of as Red Cross nurses had no connection with the National Red Cross Society, but were sent out by various auxiliaries that had many and diverse ideas as to qualifications. While the greater part did excellent work, it frequently seemed as though some rigorous army discipline would have increased the value of their services. While their employment seemed to many desirable for a time, there is no doubt but that when the army authorities are allowed to select all of the nurses in the field there will be a long forward step made.

There is to my mind no doubt that the work of the trained nurses was a godsend to the suffering soldiers. And I have reason to believe that when the plans contemplated are fully carried out there will be a great gain to the military service.

In conclusion, I wish Godspeed to the two hundred women who are to-day doing what they can for our soldiers. And let us remember that while many mistakes have been made much good has been done. Let us help where we can. Criticise only to aid, letting our highest love and service go out, even to death it may be, for God and our native land.

Note, October 23, 1899.—Medical officers returned from the Philippines tell me that the above statements apply equally to the nurses in this country and those employed across the seas. There are in and around Manila a large and increasing number of contract nurses whose discipline is excellent and their work well done. All agree that trained women nurses are a *sine qua non* in the advanced medical and surgical care of our soldiers.

REPORT OF OPERATIONS FOR THE RADICAL CURE OF THREE UNUSUAL CASES OF INGUINAL HERNIA.

By J. SHELTON HORSLEY, M. D.,
EL PASO, TEXAS.

THE long series of operations for the radical cure of inguinal hernia performed by Bassini, Coley, De Garmo, Kocher, Lucas-Championnière, and others have amply proved two facts: First, that the mortality from this operation in the hands of a competent surgeon is less than one per cent.; and, secondly, more than ninety per cent. of the patients operated on are permanently cured. These facts are being appreciated by the inhabitants of large Eastern cities, where nearly every one has some friend or relative who has been relieved of the annoyance of a truss and the dangers of a hernia by the radical operation. In western towns, however, such is not the case, and many persons prefer the injection method at the hands of a quack—a method that is frequently followed by atrophy of the testicle and other evils and that rarely, if ever, results in a real cure. In competent hands the surgical procedure of a Bassini operation is practically without mortality and is nearly always permanently successful.

The three following cases have been selected to report because each of them illustrates something sufficiently rare to be interesting, and sufficiently frequent to make it probable that a report of these cases may be instructive and useful:

CASE I.—Mr. L. K., aged forty-one years, formerly a United States soldier, had had since January, 1899, an inguinal hernia on the left side. Some weeks before the operation it became irreducible and moderately painful. Bowels moved regularly, and besides the slight pain there was nothing to indicate strangulation. However, as the hernia was irreducible and painful, a radical operation was advised. This I performed on June 14, 1899. On incising the sac about an ounce of straw-colored fluid escaped. At the bottom of the sac was a very small piece of omentum, which slipped back before it could be excised, and a small cyst. The cyst was about the size of a chestnut and slightly adherent to the hernial sac. Its walls were translucent and contained a clear fluid. The slender pedicle seemed attached to the parietal peritonæum just within the internal ring. The pedicle was ligated with catgut and the cyst excised. The hernial sac was then folded in after the manner of Macewen and the rest of the operation finished according to Bassini's method. The wound healed throughout by first intention and the patient left the hospital three weeks after the operation. At the present time (November, 1899) he is free from any signs of recurrence.

CASE II.—Mr. C. C., aged eighteen years, cowboy, had a congenital hernia on the right side. September 21, 1899, he presented symptoms of strangulation. His family physician relieved this condition by an operation. Hæmorrhage was not fully controlled and a considerable amount of blood effused into the scrotum and adjacent subcutaneous tissues. The case was kindly referred to me by Dr. Walter Keate, and the patient was brought in a hundred and forty miles on the railroad. When I saw him, on September 22d, there was still some oozing of blood. This was checked by a firm bandage. After three days, in which time the patient's condition improved markedly, I operated. A quantity of blood clots was removed from the scrotum. A deep silk suture, introduced at the previous operation, had included the cord, so the testicle was pulled up and excised. The inguinal canal and both rings were firmly closed by deep sutures of kangaroo tendon. The skin was sutured with silkworm gut. The wound was already slightly infected when I operated, and there consequently followed some suppuration, though not of a serious nature. Firm union occurred in three weeks. Patient discharged October 21, 1899.

Case III.—Mr. W. F. D., jeweler, aged twenty-nine years, had a congenital hernia on the right side. Owing to wrong diagnosis, he had elsewhere undergone a subcutaneous operation for varicocele. He was referred to me through the kindness of Dr. B. M. Hines, of Alpine, Texas, who had correctly diagnosticated the condition. Operation was performed May 11, 1899. A mass of omentum, about an inch in diameter, was found firmly adherent to the testicle and cord. It was dissected loose, more pulled down, and the whole amount ligated in sections and cut away. The congenital sac was split, removed from around the cord in the inguinal canal, and then ligated at the internal ring, as in the case of an acquired hernial sac. The rest of the operation was finished after the method of Bassini. The wound healed by first intention throughout. The patient was discharged May 31, 1899. When he was last heard from there was no evidence of recurrence. The mass of adherent omentum, so intimately connected with the cord and the testicle, had in some degree resembled varicocele when the patient was standing.

REPORT OF

A CASE OF ACUTE LYMPHÆMIA OR ACUTE LYMPHATIC LEUCÆMIA.

By WILLIAM N. BRADLEY, M. D.,
PHILADELPHIA.

From the standpoint of blood examination Cabot describes three varieties of leucæmia: chronic myelocytæmia, chronic lymphæmia, and acute lymphæmia.

The case I wish to report belongs to the class designated acute lymphæmia. The disease occurred in a boy.

Reuben B., aged eight years; Hebrew parentage; a native of New York; living in Philadelphia for the past six months.

The following is the only family history of importance that could be obtained: Mother had suppurating cervical glands when a child. One brother of the patient had marasmus, but recovered, and has since been healthy. The patient had suppurating cervical glands when a year and six months old, and measles when three years old.

The present illness began about one week prior to the first visit to my office, June 13th. He complained then of loss of appetite, lassitude, and no desire to play, and my attention was called to enlarged anterior cervical glands. On examination, I found the following: The patient was pale, but not anæmic. The glands were enlarged on both sides, each bunch being about the size of a goose egg; they were soft and elastic; each gland could be isolated. Temperature, 100° F.; some shortness of breath; no cardiac murmur; no cough; decided dullness over apices, and upper and middle lobes of both lungs; harsh breathing, with prolonged expiration; abdomen enlarged; no pain elicited on pressure over abdomen or left side. Acute pulmonary tuberculosis was suspected.

On June 18th, five days later, there was no improvement in his general condition; the glands, however, were reduced in size. A brassy cough had developed, which was worse at night; no expectoration. A week later, June 25th, the condition of the patient being considerably worse, a consultation was advised, at which time the patient's condition was as follows: Anæmia pronounced; dyspnœa decided; spleen greatly enlarged, being palpable two to three fingers' breadth below the anterior border of the ribs; the liver slightly enlarged; the epitrochlear, axillary, and inguinal glands were enlarged.

The consultant made a tentative diagnosis of Hodgkin's disease until the blood could be examined. There being no expectoration, I had been unable to examine for tubercle bacilli.

The blood examination, kindly made for me by Dr. Rosenberger, demonstrator at the Jefferson Medical College, revealed the following: Red corpuscles, 1,850,000; white corpuscles, 85,000; hæmoglobin, eighteen per cent. The proportion of red to white here was 1 to 22. Differential count: Large lymphocytes, sixty-nine per cent.; small lymphocytes, twenty-eight per cent.; polymorphonuclear leucocytes, three per cent.

Out of six hundred leucocytes counted no eosinophiles were demonstrable.

The blood examination, of course, revealed the true nature of the disease. From this time the history is one of rapid failure in strength and progressive anæmia, with all the accompanying symptoms. Cough and dyspnœa became worse. A dark-red purpuric rash developed, covering the entire body. There was constant oozing of blood from the gums and an occasional clot of blood coughed from the bronchial tubes; subsequently the cough almost ceased.

The day before death my notes give the following: Strength fast failing; complains of legs hurting him, but this, I believe, is due to the anæmia and not to any myelogenic involvement, as there is no pain on pressure over the bones, nor is there any œdema; refuses nourishment; tongue pale; skin waxy and translucent; gums very anæmic and bleeding; the submaxillary glands suddenly became enlarged and hard. There is now pain over the abdomen, which is greatly enlarged, and over the left side; still no cardiac murmur; the cervical glands much reduced in size; dyspnœa very severe; great restlessness; tendency to coma and irrational when roused.

The bowels, throughout the disease, were slightly loose, but without any tendency to diarrhœa.

The urine was light amber; the amount passed normal; no casts; and contained a large quantity of crystals of calcium carbonate.

The patient died July 22d, less than eight weeks having elapsed since the first intimation that the child was ill.

No post-mortem was permitted.

A consideration of the case has impressed upon me the following: 1. The ease with which the onset may be mistaken for acute pulmonary tuberculosis. 2. The scrofulous family history. 3. The possible coexistence of tuberculosis. 4. The necessity of careful blood examination. 5. A predominance of the large degenerated lymphocytes seems to indicate the approach of a fatal ending. 6. The absence of granulation in the leucocytes. 7. The extreme dyspnœa was due to enlarged bronchial glands. The number of red blood cells being reduced, the hæmoglobin was necessarily reduced, hence the oxygen-carrying power of the blood was diminished. This in turn resulted in a diminished oxygenation of the blood, which acted secondarily on the respiratory centre, producing dyspnœa.

1532 SOUTH SIXTH STREET.

ASEPTIC SURGERY IN THE COUNTRY.

By R. L. WOODARD, M. D.,
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In reporting these cases it is not my object to bring out anything new, but simply to emphasize, or rather to demonstrate, that aseptic surgery is possible under the most unfavorable circumstances.

At a meeting of the Southern Kentucky Medical Society last spring there was quite a lengthy discussion as to whether or not it was possible to do a thoroughly aseptic operation in the homes of the lower class of people. The argument was supported by able men on both sides, several men of large experience urging that they had never been able to get results claimed for aseptic work.

The following cases, while not enough to prove conclusively that the result can always be had, yet show that it is possible. All these operations were done in cabins of two rooms each, used by the entire family as kitchen, dining room, parlor, and bedroom. One was within ten feet of a railroad and within twenty feet of a gashouse, with all their attending odors and filth. The house itself was as dirty and filthy as could well be imagined, and the weather was unbearably hot, the mercury standing at 98° to 100° in the shade.

CASE I.—Bettie B., negress, aged thirty-three years, married; mother of one child, twelve years old. Since the birth of her child she has suffered from dysmenorrhœa and internal hæmorrhoids (the hæmorrhoids were removed two months before the abdominal section was done). She has always suffered from pain in the ovarian region, backache, headache, and pain radiating down the legs.

When I first saw her she was suffering from an acute attack of pelvic inflammation and was so tender that a thorough examination was impossible; she gave a history of repeated attacks of like character for the past five years. Gave her a saline purge and enough morphine to relieve pain, also ordered hot turpentine stupes and hot-water douches every four hours. Saw her again on the third day, and, on digital examination, found both ovaries prolapsed and enlarged, and firmly adherent to the uterus, which was slightly retroverted. General health fairly good.

Operation was advised and consented to. Gave a saline purge and ordered a good general bath the following morning. The next morning the abdomen was thoroughly scrubbed with soap and water, shaved, and again scrubbed with soap and water, with a 1-to-500 bichloride solution, and with ether. My hands and those of my assistants were washed with soap and water and thoroughly scrubbed with nailbrush, then washed in a 1-to-500 bichloride solution and with ether. My instruments were boiled in a soda solution and allowed to remain in this solution during the operation. None but flat sponges were used, and they, with the ligatures, were boiled just before the operation. The water used had previously been sterilized and was carried to the house in stone jugs.

The abdomen was opened by median incision; both ovaries were found prolapsed and firmly adherent; the adhesions were old and could not be broken up with the fingers, but were dissected off with scissors. All bleeding points were tied and oozing stopped by hot, flat sponges. The ovary was now brought into view, and found to be of four times the natural size and very much congested and enlarged. The ovarian artery was ligated with a single silk ligature; the tube and remaining vessels were ligated with a double silk ligature, and the ovary was removed. The other side was treated in the same way. The abdomen was sponged out thoroughly and the incision closed with single silkworm-gut sutures. Time of operation, fifty minutes. Patient reacted nicely; vomiting was controlled by cracked ice and whisky; suffered comparatively no pain, and took nourishment next day; moved bowels by enema on second day; urine passed without catheter. On the third day the temperature reached 100° F., which was the highest point ever reached, and after that it was never over 99° F.

Sutures were removed on the twelfth day and the wound found to be healed by first intention. Patient sat up in bed on the twentieth day and was walking around in the room on the twenty-eighth day. Now, two months after, she is attending to her household duties and is entirely well.

CASE II.—Hannah E., negress, aged forty-six years, married, mother of six children. Has suffered for the past seven years with dysmenorrhœa, metrorrhagia, ovarian pain, and pain in the back, radiating down the legs. Has not had pelvic inflammation. On examination, the ovaries were found to be normal in size and position. The tube was enlarged and a swelling the size of a walnut was felt at the fimbriated end of the right tube and a number of smaller cysts were felt on the left side.

After preparing the patient as in Case I, I opened the abdomen by a median incision and removed a cystic tube from the right side and a number of small cysts from the left side. The cysts on the left side were on both the tube and ovary. The patient reacted well and made an uneventful recovery.

CASE III.—Georgia H., negress, aged twenty-two years; mother of one child, ten months old. Gave history of having received a severe blow on breast four years ago. After the birth of the child an abscess formed, which was opened and healed, leaving the breast tender and enlarged. A tumor of the size of the fist could be felt, located in the centre of the breast, diagnosticated as chronic abscess.

The breast was thoroughly cleaned and removed, and incision closed completely with silkworm-gut sutures. Healed by first intention. Patient never had a rise of temperature. Sutures removed on twelfth day; the wound found to be perfectly clean and free from pus. Made a complete recovery.

HERNIA IN THE FEMALE.*

By THOMAS H. MANLEY, M. D.,
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Hernia presents many remarkable phases in the female sex. None of our authors on this infirmity have yet given this subject either adequate or systematic consideration. From whatever side we view the subject, we are impressed by the wide differences presented in the female sex.

In order, therefore, to comprehensively analyze these, structure and function must be considered as well as those other phases of the subject which have a more practical bearing. Causes of a sexual character come into operation in ætiology here. Its clinical history, symptomatology, morbid anatomy, and therapy in themselves constitute a large chapter in surgical maladies.

More Serious in Women.—Hernia in the female, in early life, is less frequent than in the male; in advanced age it is the reverse. With women it is altogether a more serious infirmity than with men; more incoercible to mechanical supports, more prone to strangulation, and is attended with a larger mortality after kelotomy.

Atypical and Complicated Hernial Conditions.—Atypical and complicated ruptures are oftener encountered on dissection here; the *hernial condition*, in consequence of physiological demands, is essentially feminine; and the vaginal hiatus through the pelvic floor, in conditions of visceral ectopia, often permits of a concealed displacement of the internal organs of generation, and sometimes other structures.

The protracted pressure of the excessively distended uterus may not only weaken but quite totally destroy the muscular supports of the abdomen, leaving a hernial condition commonly designated "pot-belly"; moreover, the throes of labor, with the convulsive, tetanic contractions of the muscles, sometimes produce median diastasis, a laceration or partial sundering from the osseous attachments of the muscles.

On the Influence of Pregnancy in Producing, Aggravating, or Strangulating Hernia.—If we exclude exomphalocele, we have no evidence from any source that normal pregnancy in any manner tends to the development or aggravation of an aperture hernia—*i. e.*, an extrusion through any of the canals of emergence; nor can any recorded authentic case be found wherein the parturient act led to strangulation. We may, accordingly, quite entirely disregard ordinary rupture as constituting any physical impediment to marriage. On the contrary, some authors, who have made a special study of this phase of the subject, affirm that, while in early pregnancy there may be some augmentation in volume of the extrusion, not infrequently before the time of delivery the hernia may become much diminished or have entirely disappeared.

Mortality in Operations for Hernia in the Female.—The female peritonæum bears invasion and operative manipulation with a notable tolerance, the mortality after laparotomies being much less than obtains in the male sex. Pathological lesions, too, within abdominal serous cavities of women are frequently tolerated with greater impunity and less disturbance than is the same class of lesions in men. But when intestinal stenosis from hernial obstruction occurs in women we observe a radical departure, as with them the onset is usually more sudden, the symptoms are more acute, more ominous and alarming, strangulation speedily paralyzing the centres of life, and quickly cutting life short, if intervention is not prompt and judicious.

The operative mortality for strangulation is large; before the days of early kelotomy and antisepsis it was appalling.

Profound pulmonary narcosis and incomplete or imperfect operation augments the death-rate. The wide, open incision, made early, with the substitution of local cocaine analgesia in appropriate cases, will save many who otherwise must perish, through the only possible means available for preserving life.

Ventral Hernia and the Drainage Tube.—The frequent recourse to cœliotomy for the exploration or treatment of pelvic lesions, and the employment of drainage tubes or large twists of gauze in the open wound, resulted in very frequent post-operative ventral hernia, a condition, Mr. Bland Sutton very truly observes, not infrequently much more painful and distressing than that for which the original operation was performed.

A large incision through the abdominal walls is no more conducive to a later eventration than a smaller one; nor does my experience convince me that protracted recumbency in bed after the operation exercises any special influence as a prophylactic measure. The tendency to this hernia, then, is not so much dependent on whether we make a small opening or split the muscles instead of cutting them, as it is on an improper approximation of them and of the peritonæum. But a laparotomy, however performed, always leaves a breach closed in by scar tissue, a substance prone to yield and favor rupture. To remedy this defect, or provide against overstrain, every patient laparotomized, for some time after should wear a broad, circular support over the abdomen.

Surgical Therapy in Female Hernia.—The rules laid down for the operative treatment of rupture in the male must be widely deviated from when the inguinal areas are the seat of lesion in the female. Her inguinal canal is but an almost invisible slit; the round ligament but a rudiment, sometimes absent. However, inguinal hernia, when it does occur in the female, usually produces a wide breach in the abdominal walls at the site of emergence.

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* Abstract of an essay presented at the meeting of the Mississippi Valley Medical Association, in Chicago, October 6, 1899.

Feminine hernia of every type, unattended with organic changes, or complicated by serious internal disease, should be treated by surgical intervention. As this is quite invariably free from danger in the nonstrangulated, and the prospects of permanency in effects are greater than in the male, it may be generally recommended.

For the "hernial condition," the wide diastasis of the median rhaphe, or extensive atrophic changes in the lateral muscles of the abdominal walls, with the resulting "pot-belly," surgery can accomplish little if anything. The treatment of this infirmity must be prophylactic. The pregnant woman with a marked tendency to a sagging forward of the abdominal walls should be girded up by a properly adjusted circular support; and when labor is violent or very protracted, muscular overstrain should be relieved by the use of the forceps or manual support of the overdistended abdomen.

SOME CONSIDERATIONS REGARDING THE CLIMATIC TREATMENT OF TUBERCULOSIS.

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The greater one's experience, the more convinced he becomes as to the benefit derived from the climatic treatment of tuberculosis. The climate must be adapted to the patient, as in the case of all other remedies. There is no climate suitable to all cases any more than one medicine is suitable to all diseases, but that early cases of tuberculosis are greatly benefited or entirely cured is beyond dispute. I would that my words might reach every practitioner far and wide when I repeat what I have often said before: "Send your tuberculous cases westward, and send them early." The advice to seek health in a change of climate should be the first advice given, and not the last resort after months of futile treatment. It must be taken for granted that there are cases—those without the means with which to travel and to command the comforts of life—that are not proper subjects for climatic treatment unless by some great philanthropy they can be colonized and cared for free from expense until they are cured and become self-supporting. As intimated before, the secret of success lies in the early diagnosis of the disease and in early seeking a change of climate before the golden opportunity of regaining health has passed. In order that a patient may be given the best chance of life, a correct and early diagnosis must be made. To detect tuberculosis in the very early stage is not an easy task, and often requires the greatest skill and the most careful and thorough examination by the physician. Too frequently a hasty examination is made through the clothing and the case pronounced one of bronchitis, and so treated for months, sometimes until recovery from climatic treatment is beyond all expectation. I would plead for more careful and thorough examinations, not by experts and specialists, but by general practitioners. I would insist upon the necessity of stripping the patient to the waist, and upon the minutest examination by mensuration, palpation, percussion, and auscultation, and also upon repeated microscopical examinations of the sputum. Only by these methods can an early and accurate diagnosis be made. I fully believe that the use of the microscope by the general practitioner is not sufficiently common. In this day of post-graduate schools every practitioner of medicine should be fully equipped with a microscope and skilled in its use. Let me repeat, the benefit derived from the climatic treatment of tuberculosis depends in no small degree upon the ability of the physician to make an early diagnosis and to act accordingly.

The idea that tuberculous individuals should be excluded from this State is being promulgated to a certain extent. If I am correctly informed, California has already taken steps to prevent the influx of consumptives, and the same plan is being entertained in Colorado. It undoubtedly is true that cases of tuberculosis developing in Colorado are more frequently met with than formerly, but it must be remembered that the population is much greater. It may be a question whether these spontaneous cases *are* more common in proportion to the population than formerly, but if so we should insist upon more thorough and vigorous measures of prevention and not upon restriction. The glorious climate of the West and Southwest should forever be open to tuberculous patients in search of health. Prolonged life and the blessings of restored health should not and must not be denied by crazy legislation inspired by fear and cowardice. To deny health and strength and life to those in search of them for fear, perchance, that we may contract their disease is selfish, and in this day of preventive medicine is unnecessary, unscientific, and unworthy of a Christian people. If we fear the spread of tuberculosis, then let us teach the methods of prevention, and, if necessary, by legal enactments enforce these measures, but in the name of humanity let us not interfere with the coming of these health-seekers to our glorious climate. Undoubtedly the reason that inspired the prejudice in California against consumptives has been the large number of patients that have sought that climate in the very latest stages and without adequate means of support. They have received little or no benefit from the climate and have soon become a burden upon the community. That "patience should cease to be a virtue" after long sufferance is not difficult to understand. Let us, however, with patience, and yet with all the emphasis at our command, cry out against this custom of sending invalids in the last stages of consumption from the comforts of home and friends to die in a distant land among strangers, and instead let us bid them come early and assure them of complete recovery.

In the climatic treatment of tuberculosis there is one feature that should not be overlooked, and that is the importance of rest and increased nourishment. Too frequently patients are advised to take little or no medicine upon arriving in this country, but to take abundant exercise. This is often a great mistake, especially regarding exercise. Invalids, instead of exercising when first coming to a great altitude, should take long hours of rest, and if there is any fever the repose should be absolute until the fever has subsided. This in connection with greatly increased nourishment will give the best of results. Other necessary factors are sunshine and outdoor life. If unable to exercise, tuberculous invalids should sit or lie out of doors as much as possible. Medicines have their uses and are of much importance, but the greatest factors in the cure of tuberculosis are rest, nourishment, altitude, and sunshine.

Therapeutical Notes.

Ointment of Yellow Oxide of Mercury.—Schanz (*Lyon médical*, August 20th) recommends the following formula:

℞ Yellow oxide of mercury, recently prepared	from 15 to 30 grains;
Lanolin	15 "
Distilled water	15 "
American vaseline	150 "

M.

For Chlorosis.—*Riforma medica* for November 16th gives:

℞ Lactate of iron	1½ grain;
Phosphate of calcium	3 grains.

M. For one powder. Three to be taken daily.

Trikresol in Alopecia Areata.—According to the *Therapist* for November 15th, Dr. Granville MacGowan considers trikresol a more effective remedy than any other. He has used it in nine cases with an average cure in two months and a half. His directions are briefly as follows: Cleanse the area thoroughly with benzene. Apply trikresol pure to the scalp. It is to be well rubbed into the denuded patches and into the roots of the hairs half an inch beyond each patch, by the friction of a small swab of cotton tightly wrapped on a wooden toothpick. The burning and pain are well borne and soon pass away. These applications are to be made somewhat irregularly, according to the particular local effect produced, but probably, on the average, every five to seven days, until the desired result is obtained.

The Hypodermic Use of Orthoform.—Dr. Florentino A. Loza (*Anales de Sanidad Militar*, October) says that the formula used in the military hospital at Buenos Aires for associating the analgetic action of orthoform with calomel used hypodermically in syphilis, is as follows:

℞ Oil of vaseline	150 grains;
Calomel	67½ "
Orthoform	12 "

M. From fifteen to thirty drops of this preparation have been used without signs of intolerance or intoxication.

Lutaud's Disinfectant Injection for Leucorrhœa.—The *Riforma medica* for November 11th gives the formula as follows:

℞ Potassium chlorate	12 parts;
Sydenham's laudanum (wine of opium)	10 "
Tar water	300 "

M. Two or three teaspoonfuls to be added to a quart of warm water for vaginal irrigation.

Ferruginous Enemata in the Treatment of Chlorosis.—Jollasse (*Presse médicale*, October 4th; *Lyon médical*, October 22d) remarks that iron can not be given by the mouth to advantage until the digestion has been improved. In a number of cases he has used the citrate, in doses of from a grain and a half to nine grains three times a day, in the form of enemata (the amount of water or other solvent not stated). The injection causes rather sharp pain, but it rapidly subsides.

Chloroform Water in the Gastro-enteritis of Children.—Van Emelen, of Antwerp (cited in the *Presse médicale* for October 18th), has employed the following prescription with success:

℞ Lactic acid	15 grains;
Chloroform water (1 to 200)	1,200 "
Oil of chamomile	2 drops;
Syrup of anise	300 grains.

M. S.: A tablespoonful every two hours.

Dormiol, a Hypnotic.—*Journal de médecine de Paris* for October 28th says of dormiol that it is a combination of chloral hydrate with amylene hydrate, liquid, colorless, oily, with camphoraceous odor. Density, 1.24. Soluble with difficulty in water, freely in alcohol, ether, and fatty acids. It has been administered as a hypnotic in a dose of seven grains and a half, but this dose may be increased to fifteen or even thirty grains. It may be prescribed in oil or in capsules. Meltzer's formula is:

℞ Dormiol, Mucilage of gum arabic, Syrup,	of each, 150 grains;
Distilled water	1,800 "

M. Shake vigorously before administering. A soupspoonful contains fifteen grains of dormiol.

For Infantile Cholera.—*Presse médicale* for August 16th attributes the following to Hayem and Lesage:

℞ Lactic acid	45 grains;
Syrup of quince	375 "
Distilled water	1,500 "

M. The solution should be iced. A coffeespoonful to be given every half hour for three hours, then every hour. Its use must be stopped as soon as the use of milk is resumed.

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POINTS ABOUT THE NEW *PHARMACOPŒIA.*

Dr. Charles Rice, an eminent pharmacist, an active and painstaking member of the committee of revision, a man of exceptional common sense, and a remarkably clear writer, contributes to the December number of the *American Journal of Pharmacy* an article in which he deals with some of the problems that confront the committee. He makes three recommendations. The first is that the committee be authorized to introduce statements of doses into the *Pharmacopœia*, the details to be left to the committee's discretion. There can, we think, be no question that their introduction would serve a good purpose; certainly it could do no harm. For years the *Deutsche Pharmakopöe* has given doses, and the recent issues of the *British Pharmacopœia* have given them, and in consequence those books have been *pro tanto* more useful to physicians than the *United States Pharmacopœia,* and doubtless to many retail pharmacists also.

Dr. Rice's second recommendation is that the committee be authorized to introduce such of the "newer remedies" as fulfill certain requirements. If the remedy is a definite chemical compound, such as antipyrine, aristol, chloralamide, phenacetine, salophene, sulphonal, and trional, its chemical composition should be known and controllable. Moreover, it should have passed the experimental period and be in regular and general use by the medical profession as a remedy of definite and recognized therapeutic value. Dr. Rice declares it an "ethical riddle" that men should use certain proprietary drugs freely in their practice, write of them in journal articles and text-books, and talk about them in their lectures and at medical meetings, and yet object to their recognition in the *Pharmacopœia*—and we quite agree with him.

The final recommendation is that the committee be instructed to extend the principle of standardization to as many of the potent drugs and their preparations as may be found susceptible of such treatment, but that at present no physiological tests be made official. Dr. Rice does not, indeed, object to the physiological method of testing the strength of a drug or a pharmaceutical product; on the contrary, he regards it as highly commendable on the part of some of the large manufacturing houses that they have resorted to it, but, since at present there is a lack of uniformity in estimating physiological tests, they had better not be made official until that lack of uniformity has been done away with. "Who," he pertinently asks, "shall standardize the standardizers?"

All these recommendations of Dr. Rice's commend themselves to our approval, and we think we can add one that, if carried out, would make the book much less of an enigma than it is at present to those physicians and pharmacists who are no longer young. We mean the restoration of the dear old system of grains, drachms, ounces, etc. It may not be quite "up to date" from the recent graduate's point of view, but we are sure it would touch the heart of many an elderly man to see it restored—not to supplant the metric system, but to supplement it.

THE SUN FEVER OF TROPICAL AMERICA.

The term sun fever has been applied to a number of different pathological conditions. For example, dengue has been called by that name, so has sunstroke, and Aitken, in his *Science and Practice of Medicine,* uses it in connection with a febricula that is observed in Burmah and in India. According to Dr. William Hemphill Bell, of the navy, who writes on board the *Vixen,* stationed at Bluefields, Nicaragua (*University Medical Magazine,* November), the term is applied *par excellence* by the people of Central America, including the physicians, to a peculiar febrile affection of which he has observed five examples. It begins with a brief initial stage of pronounced malaise, a feeling of fullness in the head, and slight fever. These symptoms soon become aggravated and are accompanied by supraorbital headache, inflammatory swelling of the face, particularly about the eyes, hyperæmia and œdema of the conjunctivæ, soreness of the eyeballs and their sockets, impairment of vision, and more or less photophobia. At the height of the fever, about the second day, the temperature is between 102° and 103° F., and at that time the patient complains of soreness of the back and legs, with dull aching and diffuse tenderness of the abdomen, which seem to proceed from the stomach. There is atony of both that organ and the intestines, the tongue is swollen, flabby, and lightly coated, there is almost complete loss of appetite, with considerable tympanites, gaseous eructations, flatulence, and a tendency to constipation. This acute stage lasts ordinarily only six or seven days. It is thought not to be dangerous to life or to give rise to annoying sequelæ, but it is surprisingly exhausting, so that a tonic treatment should be employed for several weeks. Unlike insolation, the sun fever of Central America does not leave its victim more sensitive than before to the pathogenic action of the sun; indeed, it seems to protect him against it in a measure.

As to the pathology of the disease, Dr. Bell is inclined to think that it is essentially a peripheral neuritis of a low grade, limited to the parts exposed to the direct action of the sun, with resulting vasomotor paralysis and œdema of the deep tissues of the inflamed area, whether cutaneous or mucous. He thinks the gastro-intestinal disturbances and the moderate fever are the consequences of this inflammation. Although he believes the sun's rays are the actual cause of the disease, it is not by mere heat that they act, for nothing of the sort results from exposure to the intense heat of the fire room. "There seems to be some special element in the solar spectrum," he says, "such as suggested by the phenomena of the Röntgen ray, capable of injuriously affecting the tissues," and he calls the disease a "sun traumatism." He notes that all his patients were of the very blond type, and he thinks that all persons of light complexion, if they have not gradually become inured to exposure to the tropical sun, are susceptible to this disease.

Much as the medical officers of the British services in India and other hot regions have done to increase our knowledge of tropical diseases, Dr. Bell thinks they have not made the most of their opportunities. Doubtless this is true; most men fall short of their full capabilities. Let us endeavor, in the new possessions that have come to us recently, to do better; nevertheless, if we but do as well as our British brethren have done, we need not be ashamed. That we shall do so, Dr. Bell's very valuable communication is an earnest.

AN EPIDEMIC OF RABIES IN JAPAN.

In the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, vol. clviii, No. 1, Professor Tomei Kurimoto, of Nagasaki, gives an interesting account of his having, under considerable difficulties, established an efficient Pasteur protective-inoculation service in Nagasaki, and recounts an epidemic of rabies which occurred some time ago in the district of Minamitakaki, on the peninsula of Shimabara. From the first of January, 1894, to the tenth of March, 1895, he observed sixty-seven persons who had been bitten by rabid animals, but were not subjected to the Pasteur treatment. Twenty-one of them died, and the others survived. The percentage of deaths, therefore, was 31.34, against a mortality of not more than half that figure in France. The author remarks that the mortality varies in different countries, and he brings up the question of whether or not the virus of rabies is more potent in Japan than in some other lands, but declares that he is unable to answer it. He suggests, however, that numbers of persons whose bites were not severe, but some of whom undoubtedly died of rabies, failed to report, and that thus the apparent rate of mortality was made to exceed the real rate.

Such was the fate of those who went without the Pasteur treatment. The author's subsequent experience with that treatment was more fortunate. From August 12, 1894, to February 25, 1899, 254 bitten persons were treated in his institute, of whom only thirty-two died. Of these thirty-two, twenty-nine left the institute too soon, before the treatment was finished; one was already affected with the disease when he entered, and died the next day; another was attacked on the day after his admission, and died the next morning; and the remaining patient died after fourteen days of treatment. That left 222 persons who underwent the Pasteur treatment to its full extent, and of those, only four died of rabies. While the author admits that there is no remedy, not even the inoculation treatment, that can be depended upon to prevent rabies when once the virus has had access to the central nervous system, he maintains that these figures afford a striking contrast to those in which he records the results of bites in persons not subjected to the Pasteur treatment. As there has been a tendency for the last few years to decry the inoculation treatment, and even to charge it with causing a certain number of deaths from rabies, it seems timely to call attention to Dr. Kurimoto's experience and to urge anew the importance of the early and thorough employment of the Pasteur treatment of persons bitten by rabid animals.

THE SANCTITY OF PROFESSIONAL CONFIDENCE.

It is hard for us in this country, where the law not only upholds the sanctity of professional confidence, but absolutely makes its breach punishable, to grasp such a condition of things as is evidenced in the *Lancet* for November 18th as having occurred at Southpost in England. An infant having been found dead, and medical evidence showing that it had had a separate existence and that its death was due to exposure, the chief constable saw fit to address a letter to the local medical men, informing them of the facts, and adding: "As it is not unlikely that the mother may be requiring medical attention, I should be obliged, should any suspicious case come under your notice, by your communicating with me at once." A conference of medical men was thereupon called, and a protest was framed against this objectionable notice, which in this country would be held not as an incitement to aid in the discovery of crime, but as an incitement to crime itself. The deputy coroner and the jury, however, indorsed the constable's action and condemned the protest of the profession, the coroner being of opinion that "the medical gentlemen of the borough would have been anxious to assist the prosecution." The *Lancet* very naturally supports the profession by pointing out that if medical men were to become state spies patients would refuse to seek professional aid, and many lives would be jeopardized thereby. The further and personal objection urged by the *Lancet*, that the medical man, by communicating his suspicions to the police, might make himself the object of unjust opprobrium, and, if mistaken, subject himself, moreover, to loss of professional prestige and to serious monetary reprisals, seems to us an unnecessary and unworthy addition. The point of view taken by the authorities is brutal and unworthy of a civilized country—and that consideration alone should be reason enough.

THE *ARCHIVES OF PÆDIATRICS.*

It is announced by the editor, Dr. Floyd M. Crandall, in the December number of this excellent journal that the growth of his other work constrains him to retire from the editorial management of the *Archives.* Dr. Crandall has done a great deal to bring that journal to its present high position in the esteem of the profession, and whatever prosperity may come to it in the future—and we hope and believe it will be abundant—will in no small degree be traceable to his efforts. Dr. Walter Lester Carr is to succeed Dr. Crandall as editor of the *Archives*, and we do not doubt that he will conduct it creditably and successfully.

THE LOST SPONGE.

The serious error of unwittingly leaving a sponge in the abdomen after abdominal section is still occasionally committed, notwithstanding the thorough appreciation of the danger by surgeons. Considerable publicity has been given to an instance that lately occurred in one of the hospitals of Columbus, Ohio, which formed the text for an excellent article published in the *Columbus Dispatch* for November 22d. It appears probable that in that case the fault lay partly with the person who was charged with making packages of a definite number of sterilized sponges, for there was testimony to the effect that on more than one occasion a package had been found to contain a supernumerary sponge. The unfortunate occurrence in Columbus emphasizes the importance of not trusting altogether to the package-maker's count; for her own protection, if for no other reason, the nurse in charge of the sponges should count them anew at the outset of each operation.

THE DIPHTHERITIC BACILLUS IN THE HEALTHY MOUTH.

The occasional existence of the bacillus of diphtheria in the mouths of persons who are perfectly healthy can only with extreme rarity, it appears to us, lead to a mistaken diagnosis of that disease. Dr. Kober (*Zeitschrift für Hygiene und Infectionskrankheiten*, 1899, No. 3; *Presse médicale*, September 13th) has shown, indeed, that the current assumption that Löffler's bacillus is to be found in the mouths of eighteen per cent. of the healthy persons who have been in contact with diphtheria patients is too sweeping; he finds it in only eight per cent.

LUMBAR PUNCTURE IN OTITIC MENINGITIS.

The idea that lumbar puncture may be serviceable not only in confirming the diagnosis of meningitis due to purulent otitis, but also in contributing to the patient's recovery, seems to Dr. Alfonso Bormans (*Gazzetta degli ospedali e delle cliniche*, July 30th; *Gazette hebdomadaire de médecine et de chirurgie*, September 10th) to have been borne out in two cases reported by him. The fluid withdrawn was turbid and contained staphylococci. After an operation upon the tympanum and the mastoid the patients recovered, and their recovery appeared to have been partly due to the puncture.

HYPNALGIA.

Among the curiosities of the pathology of the nervous system is probably to be classed a morbid manifestation to which, at a meeting of the Berlin Society of Psychiatry and Neurology (*Gazette hebdomadaire de médecine et de chirurgie*, October 26th), Dr. Oppenheim gave this name. Those who are affected with it, mostly neuropathics, have no pain while they are awake, but on going to sleep are awakened by pain behind the sternum, in the occipital region, or in the neighborhood of the kidneys. The pain soon subsides, only to recur on their going to sleep again. It seems sometimes to be connected with some change in the innervation of the heart or the lungs.

THE INDISPENSABILITY OF THE LABYRINTH TO THE POWER OF HEARING.

Some cases have been reported of the apparent persistence of a trace of auditory power after destruction of the labyrinth on each side, but Dr. Kamm (Haug's *Sammlung klinischer Vorträge*, iii, 3; *Centralblatt für innere Medicin*, November 18th) has been led to conclude from experimental observations that, while it is conceivable that some power of audition may remain after the destruction of both cochleæ, there is no vestige of it if both labyrinths have been wholly destroyed.

AN OPERATION FOR THE "IRRITABLE TESTIS" OF SIR ASTLEY COOPER.

Some years ago most of our surgical text-books in English recognized no name but Sir Astley Cooper's term "irritable testis" for an affection manifested by severe and persistent pain in the testicle without organic disease of that organ. Valleix called it lumbo-abdominal neuralgia, and he thought it essentially identical with a painful affection occasionally observed in women in which the pain was referred to the labium majus. Orchidectomy does not always cure it permanently when it occurs in men, and is open to some other objections; moreover, less radical procedures often prove effective, although in an obstinate case reported by Dr. Julius Donath and Dr. Fidelis Hültl (*Wiener klinische Wochenschrift*, 1899, No. 11; *Monatshefte für praktische Dermatologie*, October 1st) resection of the lumbo-inguinal and external spermatic nerves did not suffice for a perfect cure. The pain returned at a late date after the operation, but it was much less severe than before. It is noted that the sexual appetite was decidedly augmented after the neurectomy.

PRECAUTIONS FOR THE BENEFIT OF PERSONS BURIED ALIVE.

For years the physicians of France have given a great deal of attention to the prevention of burial before death. Now their efforts seem to have been directed to means of enabling a person who has actually been buried alive to call for assistance in case he recovers consciousness or makes any movement. Ingenious devices to achieve the purpose were recently demonstrated in New York by two French gentlemen. They included a slight illumination of the interior of the coffin through a tube communicating with a lamp, also a button which, on being touched, would set off a rocket, sound an alarm, and send a signal to a general telephone station. We are very skeptical about the occurrence of ante-mortem burial, and the long experience of the mortuary chambers in Munich seems to justify skepticism, but there are many good people who live in an agony of dread lest they may be buried alive, and for the sake of their peace of mind such efforts as we have mentioned should be encouraged.

A NURSES' TRAINING SCHOOL IN HAVANA.

The September number of the *Habana Médica* announces its gratification at the foundation of a training school for nurses in Havana, and we wish to add our congratulations to the profession of that city, where there is doubtless a large field for skilled nursing.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending December 16, 1899:

DISEASES.	Week ending Dec. 11.		Week ending Dec. 16.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	66	20	91	9
Scarlet fever	138	6	147	11
Cerebro-spinal meningitis	0	4	0	4
Measles	307	11	482	13
Diphtheria	255	40	273	37
Croup	15	10	9	3
Tuberculosis	144	138	171	154
Chicken-pox	20	0	29	0
Small-pox	0	0	2	0

Christian Greece and the Living Greek.—We understand that Dr. Achilles Rose's book bearing the foregoing title has reached a second edition in the Greek translation, Ἡ *χριστιανιή* Ἑλλάς *καὶ ἡ ζῶσα* Ἑλληνική *γλῶσσα, ὑπὸ* Ἀχιλλέως Rose *ἐκ τῆς ἀγγλικῆς μετεφράσθη ἐις τὴν ἑλληνικήν ὑπὸ* Μιχαὴλ Κωνσταντινίδου. The German edition has been recently published and favorably noticed in both the medical and lay press, while a French translation goes to press after New Year's.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Pathology, on Tuesday evening, the 19th inst., the following papers were presented for discussion: Meckel's Diverticulum, with exhibition of specimens, by Dr. Irving M. Snow; and Diseases of the Middle Ear requiring Radical Treatment.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending December 15, 1899:

Small-pox—United States.

Washington, D. C.	Dec. 2–9	2 cases.	
Arkansas City, Kan.	Nov. 27–Dec. 2	14 "	1 death.
Columbus, Kan.	Nov. 27–Dec. 2	1 case.	
Lawrence, Kan.	Nov. 27–Dec. 2	6 cases.	
Peoria, Kan.	Nov. 27–Dec. 2	1 case.	
St. Marys, Kan.	Nov. 27–Dec. 2	2 cases,	1 "
Wellington, Kan.	Nov. 27–Dec. 2	2 "	
New Orleans, La.	Dec. 2–9	7 "	
Chelsea, Mass.	Dec. 2–9	3 "	
Greenville, S. C.	Dec. 2–9	4 "	
Portsmouth, Va.	Dec. 2–9	19 "	

Small-pox—Foreign.

Antwerp, Belgium	Nov. 11–18	3 cases.	
Prague, Bohemia	Nov. 11–18	19 "	
Ceara, Brazil	Oct. 1–31		1 death.
Kamouraska, Canada	Nov. 27–Dec. 4	63 "	
Casilda, Cuba	Nov. 27–Dec. 4	5 "	
Cairo, Egypt	Oct. 28–Nov. 4		1 "
London, England	Nov. 18–25	1 case.	
Athens, Greece	Nov. 11–18	3 cases,	1 "
Chihuahua, Mexico	Nov. 25–Dec. 2		8 deaths.
Vera Cruz, Mexico	Nov. 23–Dec. 7		2 "
Moscow, Russia	Nov. 4–18		2 "
St. Petersburg, Russia	Nov. 11–18	17 "	3 "
Corunna, Spain	Nov. 18–25		1 death.

Yellow Fever—United States.

Key West, Fla.	Nov. 26–30	4 cases.	
New Orleans, La.	Dec. 2–9	1 case.	

Yellow Fever—Foreign.

Barranquilla, Colombia	Oct. 22–Nov. 18	2 cases,	2 deaths.
Panama, Colombia	Nov. 25–Dec. 5	10 "	5 "
Havana, Cuba	Dec. 1–7	6 "	1 death.
Matanzas, Cuba	Nov. 26–Dec. 3	1 case.	

Cholera.

Amara, Turkey (in Asia)	Nov. 13	Present.
Bassorah, Turkey (in Asia)	Nov. 23	Spreading.
Fao, Turkey (in Asia)	Nov. 17	Present.
Shabra, Turkey (in Asia)	Nov. 18	Present.

Plague—Foreign.

Santos, Brazil	Oct. 18–Nov. 18	28 cases,	11 deaths.
Hongkong, China	Oct. 14–28	2 "	2 "
Osaka and Hiogo, Japan	Nov. 4–11	3 "	3 "
Tamatave, Madagascar	Oct. 16–29	11 "	8 "
Oporto, Portugal	Nov. 1–20	41 "	17 "

An Examination for the Medical Corps of the Marine-Hospital Service.—A board of officers will be convened at the Service Building, 378 Washington Street, New York, on Wednesday, February 7, 1900, for the purpose of examining candidates for admission to the grade of assistant surgeon in the United States Marine-Hospital Service. Candidates must be between twenty-one and thirty years of age, graduates of a respectable medical college, and must furnish testimonials from responsible persons as to character. The following is the usual order of the examination: 1. Physical. 2. Written. 3. Oral. 4. Clinical. In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify for service in any climate. The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination on the various branches of medicine, surgery, and hygiene. The oral examination includes subjects of preliminary education, history, literature, and natural sciences. The clinical examination is conducted at a hospital, and when practicable candidates are requires to perform surgical operations on a cadaver. Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur. Upon appointment, the young officers are as a rule first assigned to duty at one of the large marine hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco. After five years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon. Promotion to the grade of surgeon is made according to seniority, and after due examination, as vacancies occur in that grade. Assistant surgeons receive sixteen hundred dollars, passed assistant surgeons two thousand dollars, and surgeons twenty-five hundred dollars a year. When quarters are not provided, commutation at the rate of thirty, forty, or fifty dollars a month, according to grade, is allowed. All grades above that of assistant surgeon receive longevity pay, ten per centum in addition to the regular salary for every five years' service up to forty per centum after twenty years' service. The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information, or for invitation to appear before the board of examiners, address Supervising Surgeon-General, United States Marine-Hospital Service, Washington, D. C.

The Late Dr. Charles Inslee Pardee.—At a regular meeting of the board of directors of the Manhattan Eye and Ear Hospital held on November 21st, the chairman, Mr. George E. Sterry, vice-president, called the board's attention to the loss the hospital had suffered in the death of Dr. Charles Inslee Pardee, and on motion appointed Dr. Roosa and Mr. George G. Moore a committee to draft suitable resolutions.

Dr. Roosa remarked that he had been a classmate in the medical college with the late Dr. Pardee, and that he had been intimately acquainted with him from that time until the day of his death. His death was very sudden, said to be from apoplexy. After graduation, Dr. Pardee served gallantly and efficiently as a medical officer in the volunteer service during the civil war. On his return, he was associated with Dr. Roosa in the University Medical College, and, as his assistant, he was with the speaker on the opening of the Manhattan Eye and Ear Hospital, and served there as an assistant surgeon on the very first day that Dr. Roosa's clinic was opened for the reception of patients. He was elected surgeon in 1879 and continued his duties there until he was appointed dean of the medical faculty of the university. His labors in the medical college were so exacting that he was obliged to resign his position as surgeon of the Manhattan Eye and Ear Hospital. But, on the nomination of the late Dr. Agnew, he was made a director of the hospital, in which position he served with punctuality and faithfulness until his death. Dr. Pardee was an astute and skillful practitioner, and he was so successful as dean of the medical faculty that the speaker had heard the late Chancellor Crosby say he was worthy to be made chancellor of the university. He was very genial and interesting in social life, and, as had been said by the chairman of our board, we all deplored his loss.

The board of directors of the Manhattan Eye and Ear Hospital record with profound regret the death of their late colleague, Dr. Charles Inslee Pardee. Dr. Pardee was appointed assistant surgeon at the Manhattan Eye and Ear Hospital in 1869, and promoted to the surgeonship in 1879. He resigned the latter position on the 17th of November, 1885, and was thereupon elected a director of the hospital, which position he continued to occupy until the day of his death. He died on the 3d of November, and the board of directors make this record of his services to the institution, which were always of a high order. It is directed by the board that a copy of this be sent to the family of the late Dr. Pardee and to the medical journals.

[Signed.] John Sinclair, *President*,
A. G. Agnew, *Secretary*.

The St. Louis Medical Society.—At the last meeting, on Saturday evening, the 16th inst., Dr. Jerome K. Bauduy read a paper entitled A Comparatively Rare but Important Form of Syphilitic Neuralgia, and its Treatment.

Changes of Address.—Dr. William H. Roe, to No. 178 Nostrand Avenue, Brooklyn; Dr. H. Marion-Sims, to No. 101 East Sixty-first Street, New York; Dr. Floyd Stewart, to No. 3501 Franklin Avenue, St. Louis.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 9 to December 16, 1899:*

Hartnett, Eugene H., First Lieutenant and Assistant Surgeon, United States Army, will report to the commanding general of the First Division and proceed to San Isidro, Luzon, for duty with the Fourth Cavalry, relieving Grandy, Luther B., Captain and Assistant Surgeon, Thirty-fifth Infantry, who will proceed to Manila.

Mazzuri, Paul, Acting Assistant Surgeon, United States Army, will report to the commanding officer, detachment of the Second Cavalry, for duty with the troops of that command while on practice marches.

Summerall, W. B., Acting Assistant Surgeon, United States Army, will report to the surgeon in charge of the Military Hospital in Matanzas for duty.

Powell, Junius L., Major and Surgeon, United States Army, will proceed to San Isidro, Luzon, for duty as division surgeon, relieving Penrose, George H., Major and Brigade Surgeon, United States Volunteers, who will report to the commanding general, Third Brigade, First Division, for duty as brigade surgeon.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending December 16, 1899:*

Bell, W. L., Assistant Surgeon. Detached from the *Philadelphia* and ordered to the *Independence*.

Garton, W. M., Assistant Surgeon. Detached from the Washington Navy Yard and ordered to the *New York* immediately.

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending December 14, 1899:*

Oakley, J. H., Passed Assistant Surgeon. To proceed to New York and report to Surgeon L. L. Williams (Immigration Depot) for special temporary duty. To proceed to Queenstown, Ireland, for duty.

WICKES, H. W., Passed Assistant Surgeon. To proceed to New York and report to Surgeon L. L. WILLIAMS (Immigration Depot) for special temporary duty. To proceed to Glasgow, Scotland, for duty.

GREENE, J. B., Passed Assistant Surgeon. To proceed to Bremen, Germany, for duty.

MATHEWSON, H. S., Assistant Surgeon. To proceed to New York and report to Surgeon L. L. WILLIAMS (Immigration Depot) for special temporary duty. To proceed to Liverpool, England, for duty.

CORPUT, G. M., Assistant Surgeon. To proceed to Marseilles, France, for duty.

KING, W. W., Assistant Surgeon. Detailed as inspector of unserviceable property at New Orleans.

MCISAACS, FRED, Acting Assistant Surgeon. Granted leave of absence for two weeks from December 21st.

Society Meetings for the Coming Week:

MONDAY, *December 25th:* Medical Society of the County of New York; Lawrence, Massachusetts, Medical Club (private); Cambridge, Massachusetts, Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, *December 26th:* New York Dermatological Society (private); Metropolitan Medical Society, New York (private); Buffalo Academy of Medicine (Section in Obstetrics and Gynæcology); Richmond, Virginia, Academy of Medicine and Surgery.

WEDNESDAY, *December 27th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Philadelphia County Medical Society.

THURSDAY, *December 28th:* New York Academy of Medicine (Section in Obstetrics and Gynæcology); New York Orthopædic Society; Brooklyn Pathological Society; Brooklyn Society for Neurology; Roxbury, Massachusetts, Society for Medical Improvement (private); Pathological Society of Philadelphia.

Births, Marriages, and Deaths.

Died.

BRADFIELD.—In Fort Ontario, New York, on Saturday, December 9th, Marie Bradfield, wife of Dr. George M. Bradfield, United States Army.

BRECHIN.—In Boston, on Sunday, December 10th, Dr. William Pitt Brechin, in the forty-ninth year of his age.

PHARES.—In East Feliciana, Louisiana, on Sunday, December 10th, Dr. John H. Phares, in the sixtieth year of his age.

Letters to the Editor.

A CRITICISM ON DR. KEMP'S ARTICLE ON THE EFFECTS OF DIFFERENT ANÆSTHETICS ON THE KIDNEYS.

225 WEST FORTY-FIFTH STREET,
NEW YORK, *December 4, 1899.*

To the Editor of the New York Medical Journal:

SIR: As an anæsthetist, I think some remarks in reference to Dr. Kemp's article will not be without interest. A careful study of the paper must convince any fair-minded person that its tendency is to prove ether a less safe anæsthetic than chloroform, particularly when in the cases mentioned almost entirely the one anæsthetic was given. One need but review medical literature to note practically the same experiments and deductions, which do not in the least detract from the value of ether as an anæsthetic. Dr. Kemp admits it is possible for a chill to cause a congestion of the kidneys; he seems, however, to forget or ignore the fact that when a patient is operated upon more or less chilling, in spite of every precaution, is very apt to occur. The patient may be warmly protected, yet, take, for instance, an abdominal operation: the patient passes through various scrubbings and irrigations, usually ending with alcohol and ether, both of which on evaporating extract considerable heat from the body. I am perfectly willing to admit that this is unavoidable, yet, should kidney disturbance follow, the anæsthetic is charged with it forthwith. Kidney disturbance, even to complete suppression of urine, can occur where no general anæsthetic has been administered.

As an illustration, some years ago, when I was an interne in a hospital in this city, a patient was operated upon for an external urethrotomy in which cocaine was used; the urine analysis was negative in all respects. Following the operation there was a complete suppression of urine, which occasioned the surgeon much anxiety, and which responded only to most careful and persistent treatment, the patient finally recovering. In this instance had ether been employed it would have been credited with the untoward result.

No one will deny that any anæsthetic can cause derangement of the kidney function. Assuming this is so, and it is practically so with ether as with chloroform, as I shall presently show, it is something which can not be avoided. The given patient must be anæsthetized; if it is properly done, the danger of kidney derangement, *particularly serious,* is exceedingly remote.

In the second proposition, on page 734, Dr. Kemp fails to mention the operation itself as a causative factor in renal disturbance. I have noticed this following anæsthesia with ether or chloroform, especially in abdominal cases, with excessive manipulations, and I think, had the other anæsthetic been employed or none at all, the result would very probably have been the same. The sympathetic system in the splanchnic area has an intimate relation to the kidneys. Excessive manipulation in the abdominal or even pelvic cavity can produce kidney derangement as well as intestinal paresis (even here *rarely fatal*) without either anæsthetic, in my opinion, being at fault.

An interesting case might be mentioned. In the hospital before alluded to a patient was operated upon for appendicitis. Chloroform was employed, the patient having a slight cough which could hardly be due to bronchitis, as an examination of the chest was negative; the urinary analysis was also negative. The operation disclosed a perfectly normal appendix, which was removed, and a *very elaborate inversion and suture of the intestine* was performed, with part of the patient's intestines exposed and subjected to excessive manipulation. The narcosis lasted *nearly two hours.* The following day the urine analysis disclosed a small amount of albumin and casts. This condition continued until the eleventh day, when the patient died. The autopsy disclosed congestion about the seat of operation and an emphysematous condition about the tissues in the vicinity of the abdominal incision. I do not consider the anæsthetic at fault in this case. The same may be said for the following: Recently I administered ether, preceded by nitrous oxide, to a patient whose urinary analysis was negative. The operation of vaginal section was performed and lasted an hour and a quarter. During this time three gallons of gas and, in all, an ounce and a half of ether were used. On the second day after the operation the urine was found almost solid with albumin. The following three days it had almost disappeared. During the operation there was considerable manipulation in removing the sac of an ectopic gestation. Note the small quantity of ether used. At the end of this operation the quantity of urine obtained by catheter was an ounce and a half; specific gravity, 1.015; no albumin. There was also no albumin for twelve hours following operation. This patient recovered with the free use of lithia waters and colonic enemata.

Dr. Kemp does not tell us whether the methods of anæsthetization were approximately those used in clinic cases. Evidently not, from the number of times artificial respiration became necessary, which he mentions in his A. C. E. experiments.

Now, the *incontestable* point which I wish to emphasize in connection with Dr. Kemp's paper is, "*invariably*," he says, "etherization in dogs produces, first, albumin, second bloody urine, and third suppression"; further he says: "With chloroform, albumin is not produced until near death, and when the circulation is dangerously depressed, also there is an abundant secretion of urine." Now, I will not deny this is the case *in dogs*, but I certainly do deny, and emphatically, and I will verify my assertion with the most perfect tabulated statistics that any one could desire, that this is so in *clinical anæsthetization*, and I think observers the world over will bear witness that, first, albumin following etherization is rare, considering the *vast* number of patients anæsthetized by this agent, and exceedingly rare when it is properly administered.

Secondly, albumin and suppression do occur with chloroform, though slightly less frequently than with ether, but in my experience it persists longer. In my first observations, in a large series of cases, albumin followed ether in nine per cent., and chloroform in seven per cent.

I am at present and have been for some time past making further clinical observations upon the effects of anæsthetics upon the renal secretion, not only with ether and chloroform, but also with nitrous oxide and nitrous oxide and oxygen; the mixed anæsthetics I have discarded, and only in rare instances do I use the A. C. E. mixture, having from experience found that I could accomplish with ether or chloroform everything that the most enthusiastic advocates have claimed for these anæsthetic mixtures.

In the experiments where chloroform is used, Dr. Kemp says "the fall in pressure is due to the effect of chloroform upon the heart." This is, I think, a mistake, for in prolonged chloroformization the heart is in most cases only affected secondarily as a result of the great fall in blood-pressure due to a paresis of vasomotor tone, particularly in the portal system of vessels, the integrity of which is maintained by the splanchnic nerves. It is this depression, frequently termed shock, which often turns the balance against the patient, and just here is where ether's superiority is shown, acting as it does as a stimulant throughout narcosis, and only in case of considerable hæmorrhage or with excessive manipulations in the large body cavities does the vasomotor system first, and secondly the heart, become dangerously depressed.

Regarding the A. C. E. experiments, the correct interpretation, I think, is this: Chloroform being the more potent agent, its inhalation is accelerated by ether, a more volatile one; the vasomotor depression more than overbalances the stimulating effects of ether, hence the fall in blood pressure causes the lessened amount of albumin and the greater quantity of urinary secretion. The reason the secretion is not suppressed is the depressed state of the circulatory apparatus. Further on he says that where A. C. E. was freely administered artificial respiration had to be performed on *every* dog. Is it not a clinical fact that, even when one is using the A. C. E. mixture, artificial respiration is *very rarely* necessary, an evidence, by the way, that this mixture of anæsthetics was not administered as it is clinically? The A. C. E. mixture is extensively used by some anæsthetists of great experience, and when I say anæsthetists I do so advisedly, for all administrators are certainly not anæsthetists.

In reference to the cases cited by Dr. Kemp where he says death was traceable to ether, I should like to say that, glancing over the different cases, one is immediately impressed with the fact that they were all practically cœliotomies. I presume that in the two cases of fibromyomata uteri also the operation was done through the abdomen.

Without in any way questioning the surgeon's ability in Case I, other factors could very well have been the cause of the patient's death, such, for instance, as sudden chilling, as mentioned in the beginning of his paper, and shock dependent upon the operation. The same may also be said of the other cases. We are not told in any of these cases the length of time consumed in the operation. Again, I am free to admit that the result may have been due to the anæsthetic, but when we consider the intimate connection between the sympathetics of one part of the abdomen, for instance, the intestines and the kidneys, and in most of these cases more or less manipulation from the nature of the operation occurred, we are justified in assuming that other factors besides the anæsthetic could very well have been at work.

I note Dr. Kemp made no observations regarding deaths from chloroform. Since he made his paper clinical as well as experimental, for purposes of completeness clinical observations of deaths resulting from chloroform should not have been omitted, but possibly, as in most city hospitals chloroform is only given in exceptional cases, it was from the small number of narcoses conducted with this agent that he was unable to do so.

The statement that in ninety-seven cases in which ether was administered albuminuria occurred in 65.8 per cent. seems amost incredible, no matter what the method of anæsthetization.

I should like to say that I consider chloroform an ideal anæsthetic and it has a distinct place in surgery. While I always administer it in appropriate cases, yet, from a large experience with this agent and ether, I must emphasize the fact, which I am confident any one will who administers both anæsthetics in a sufficiently large number of cases to become familiar with each, that ether is the safest general anæsthetic known, notwithstanding the remote complications often attributed to it.

S. ORMOND GOLDAN, M. D.

THE ÆTIOLOGY OF TUBAL GESTATION.

St. Augustine, Fla., *December 8, 1899.*

To the Editor of the New York Medical Journal:

Sir: An attempt at abortion in the first few weeks of gestation is conducive to tubal trouble. In tubal pregnancy, where previous pelvic disease can be excluded, close questioning will reveal the fact that in a large percentage of cases an effort was made, immediately upon the non-appearance of the menstrual flow and when conception was suspected, to bring on the discharge by the use of some preparation having emmenagogue properties or an expulsive action, with the result of preventing the descent of the fructified ovum and hastening rupture through the action of such remedies on the circular fibre. This knowledge, when obtained, is an ætiological factor in the diagnosis.

L. S. Alexander, M. D.

A MATTER OF AUTHORSHIP.

Denver, Colo., *December 7, 1899.*

To the Editor of the New York Medical Journal:

Sir: In Sajous's *Annual and Analytical Cyclopædia of Practical Medicine* my name has, by mistake, been appended to the article on Diseases of the Lens. This excellent article was written, as I am informed, by Dr. Frank W. Marlow, of Syracuse, and he should have the credit for it. Edward Jackson, M. D.

Special Articles.

THE LAW IN ITS RELATIONS TO PHYSICIANS

By ARTHUR N. TAYLOR, LL. B.

L.

PRIVILEGED COMMUNICATIONS.

(*Continued from page 899.*)

The question of privilege has repeatedly arisen in cases where an insurance company has sought to avoid liability upon an insurance policy by showing by the assured's physician that at or previous to the time of entering into the contract of insurance he was afflicted with a disease, the existence of which he had denied in his application for insurance.

In an application for insurance it is usually required of one to give the name of his physician for the purpose of verifying the applicant's statements regarding the condition of his health. This reference does not, however, amount to a waiver of the privilege, and will not enable the insurance company to place such physician upon the witness stand and elicit from him the assured's physical condition at the time or times mentioned in the application.*

When, however, the application contains a clause waiving all provisions of the law preventing a physician from disclosing any information acquired in attending the applicant in a professional capacity, the effect will be to completely waive the privilege, not only as to the assured, but also to any one claiming a benefit under the contract of insurance.†

The legislature of New York in 1891 amended the law providing for the protection of professional communications so that a physician could not be examined regarding information obtained in the course of his professional intercourse "unless the provisions thereof are expressly waived *upon the trial or examination* by . . . the patient." This act was held by the court of appeals not to apply to a waiver executed prior to the amendment of the law.* And the supreme court has, in two well-considered decisions,† held that a waiver executed subsequent to the enactment of the law may be used upon the trial after the patient's death to authorize a disclosure. In the case of Dougherty *vs.* Metropolitan Life Insurance Company, the court said: "If the patient be alive, an entry upon the record at his trial by his counsel would be sufficient. In case of his inability to attend the trial, a written stipulation signed by him and entered upon the record would remove the prohibition.

"That being so, it must certainly be immaterial when the stipulation is signed. In this case it was signed long before the trial in anticipation of that event, and with design of having it used thereat. . . . The reasonable construction of the statute, therefore, is that the provisions are expressly waived upon the trial if a proper stipulation to that effect be produced thereat and entered upon the record, regardless of the time when the waiver was executed."

With the evident intent of overcoming the effect of this decision and nullifying the waiver contained in the application for an insurance, the legislature of New York, in 1899, amended the statute by adding to it the following words: "The waivers herein provided for must be made in open court, on the trial of the action or proceeding, and a paper executed by a party prior to the trial, providing for such waiver, shall be insufficient as such a waiver. But the attorneys for the respective parties may, prior to the trial, stipulate for such waiver, and the same shall be sufficient therefor." ‡ What the effect of this amendment may be can not be stated until the parties interested in its avoidance have devised means to accomplish that end, and those means have been passed upon by the courts.

It has been observed that the privilege does not expire with the life of the patient. The question therefore naturally arises whether or not the privilege may be waived after the patient's death, and, if so, to whom does this right descend?

The New York statute previous to its amendment in 1892 provided that privileged communications should not be disclosed unless the "provisions of the statute were expressly waived by the patient." It was therefore held under this statute that a patient by dying without first waiving his privilege rendered it impossible to remove the seal of secrecy from the lips of his physician.# Thus, where one who was insured committed suicide, and his insurance policy contained a clause providing that it should be void if the insured committed suicide, it became vital to the validity of the policy to show that the deceased was insane and either unconscious of the act which he performed, causing his

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* Edington *vs.* Mutual Life Assn., 67 N. Y., 185; Masonic Mut. Ben. Assn. *vs.* Beck, 77 Ind., 203.

† Adreveno *vs.* Mut. Res. Fund Life Assn., 34 Fed. Rep., 870.

* Foley *vs.* Royal Arcanum, 151 N. Y., 196, 45 N. E. Rep., 456.

† Dougherty *vs.* Metropolitan Life Ins. Co., 87 Hun, 15, 33 N. Y. Supp., 873; Holden *vs.* Metropolitan Life Ins. Co., 11 App. Div., 426, 42 N. Y. Supp., 310.

‡ § 836, Code of Civil Procedure.

Lodger *vs.* Whelpley, 111 N. Y., 239.

death, or was unable to understand what the physical consequences of it would be. In order to show this the physician who had attended him was called, but upon the evidence being objected to by the insurance company, the court held that under the statute the patient alone could waive the privilege, and, as the patient was dead, the right of granting permission to disclose privileged matter between him and his physician had also ceased, and that the physician could not properly be permitted to make the disclosure asked.[*] That the injustice worked by this law was realized is evident, for the legislature in 1892 amended the statute so as to permit the physician to testify when the privilege was waived by the personal representative of the deceased, or in case of a will contest by the executors, surviving husband or wife, or an heir-at-law, or next of kin, or any other party in interest, except that the physician should not be permitted to disclose confidential communications and such facts as would tend to disgrace the memory of the patient.[†]

The rule enforced by the New York courts previous to the amendment of the statute is followed by the courts of California, where it is held that if the patient dies without having waived the privilege, the matter forever is closed, and the physician will under no circumstances be permitted to disclose the knowledge obtained in rendering professional services to the deceased.[‡] The reason assigned for this strict rule is the similarity of the California statute to that of New York as it formerly existed.

The supreme courts of Michigan, Missouri, and Indiana hold to a contrary doctrine and permit the personal representative of the deceased to waive the privilege, thus qualifying the physician to testify regarding matters otherwise prohibited.[#]

In Indiana it is held that in the contest of a will the waiver can be made only by a personal representative of the deceased—viz., an executor or administrator—and if there is no such personal representative the physician can not be permitted to testify;[||] but in case of a suit upon an insurance policy the wife of deceased, who is named as beneficiary, is competent to waive the privilege.[△]

The rule which seems best calculated to do justice to all parties is that laid down by the supreme court of Missouri in the case of Thompson *vs.* Ish,[◊] which is that in a will contest any party claiming under the deceased, whether a devisee or heir-at-law, may waive the privilege and call the attending physician to testify regarding deceased's mental capacity.

(*To be continued.*)

Pith of Current Literature.

Vanadium in the Treatment of Tubercle.—The *British Medical Journal* for December 2d says that attention has been drawn lately to the therapeutic properties of vanadium in anæmia, chronic rheumatism, diabetes, and neurasthenia. Anceau has just published the results of a series of observations on the use of this drug (*Thèse de Paris*, 1899), especially in regard to the treatment of tubercle. In this disease vanadium seems to act as a powerful tonic to the appetite and digestive functions. It would seem, however, that the effects of vanadium are only very slight when the pulmonary lesion manifests itself by profound constitutional changes. On the other hand, should the case be one of slight tuberculous affection, especially in the early stages, vanadium seems to be of very great use. The appetite is stimulated in such a manner that the patient is able to take abundance of nourishment, and, what is more important, digestive power is considerably increased. Its method of administration is important. The best method seems to be to exhibit the drug from three to five days at a time, allowing a similar interval to elapse before repeating its administration. Vanadium seems to act like arsenic and iron, but appears to be considerably more efficacious in its action than either of these substances, as it seems to have twenty thousand times more oxidizing power than iron, and considerably more than arsenic. The best form is vanadiate of sodium, and the writer recommends one thirtieth of a grain (two milligrammes) daily by the mouth, and one six-hundredth of a grain (one tenth of a milligramme) as a subcutaneous injection.

Ouabain.—Gianturco (*Rivista medica della regia marina*, August; *British Medical Journal*, October 14th), having had the opportunity of examining a considerable quantity of the roots of *Acocanthera ouabaio* (the plant from which the Somalis prepare their arrow poison), has made a series of chemical researches on the properties of the alkaloid ouabain. The alkaloid, obtained by precipitation with lead acetate from a watery solution, crystallizes in cubes flattened at the base and of a mother-of-pearl appearance. It is only slightly soluble in cold water, easily soluble in alcohol (at 85°) and in boiling water, insoluble in chloroform, ether, or absolute alcohol. Its elementary composition is represented by the formula $C_{30}H_{46}O_{12}$, with 7 H_2O water of crystallization, which somewhat resembles that of strophanthin. It is one of the glucosides, and when acted on by dilute acids splits up into rhamnose ($C_6H_{12}O_5$) and a resin not yet studied.

Massage of the Prostate.—M. Aubry (*Gazette hebdomadaire de médecine et de chirurgie*, September 17th), in a Paris thesis, says that massage of the prostate acts in two ways: Mechanically it empties the glandular ducts of their secretions and exudates, it accelerates the venous circulation and reduces congestion of the organ, and finally it influences the nutrition of the gland by interstitial changes and inducing the resorption of embryonic infiltrations and other morbid deposits. He recommends massage in acute parenchymatous prostatitis, if taken at the beginning, while there is only a simple swelling of the gland, with tenderness. In the final stage of acute prostatitis it further aids resolution; and it is useful at the end of an apparently cured blennorrhagia, when there often persists the slight mucous, whitish, sterile exudation of "aseptic urethritis." This the author believes to be really due to the congestion of the prostate which accompanies every blennorrhagia. Massage of the prostate combined with the distinction test by two glasses and aided by microscopical examination he considers the best means of diagnosticating chronic prostatitis. Massage of the prostate combined with urethro-vesical irrigations is the best means of combating chronic urethro-prostatitis, in which irrigation alone often fails.

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[*] Westover *vs.* Ætna Life Ins. Co., 99 N. Y., 56.

[†] L., 1892, p. 1042, ch. 514.

[‡] *In re* Flint, 100 Cal., 391, 34 Pac. Rep., 863; Harrison *vs.* Sutter St. Ry. Co., 116 Cal., 156, 47 Pac. Ref., 1019.

[#] Fraser *vs.* Jennison, 42 Mich., 206; Morris *vs.* Morris, 119 Ind., 341; Denning *vs.* Butcher, 91 Ia., 425, 59 N. W. Rep., 69.

[||] Gurley *vs.* Park, 135 Ind., 440, 35 N. E. Rep., 279.

[△] Penn. Mut. Life Ins. Co. *vs.* Wiler, 100 Ind., 92.

[◊] Thompson *vs.* Ish, 99 Mo., 160, 12 S. W. Rep., 510.

Toluidine-blue in External Ocular Inflammations.—Veasey (*Virginia Medical Semi-Monthly; Journal of Eye, Ear, and Throat Diseases,* October) describes toluidine-blue as a bluish crystalline powder, soluble in water and alcohol. The most useful strength is 1 to 1,000. In all varieties of conjunctivitis and in keratitis he considers it a valuable collyrium. It has the advantage of deeply staining cornea denuded of its epithelium, so that the extent of the diseased portion can easily be seen. In dacryocystitis it is exceedingly valuable.

Face Veil a Cause of Erythema.—O. Rosenbach (*Berliner klinische Wochenschrift,* October 9th and 15th) says that a veil drawn tightly compresses the nose and a portion of each cheek, disturbing the circulation and leading, possibly, to permanent dilatation of the vessels and consequent disfiguring redness, the area of which resembles a butterfly in shape, betraying its mechanical origin. The confined steam from the breath also adds to the effect, while entering a warm room directly from the cold outside exaggerates all the evils of the tight veil.

Heredity in Tuberculosis.—Dr. Flick (*Journal of Tuberculosis,* October; *Charlotte Medical Journal,* November) says that instead of the son of a tuberculous father being sure to have the disease, he may have in his make-up a more than ordinary amount of resistance to the germs. Instead of inheriting the disease we may possibly inherit immunity from it. The development of the contagion theory has done much to prepare our minds for the reception of immunity ideas in regard to tuberculosis. So then, says Dr. Flick, instead of sitting down moping because our fathers had consumption, let us stir about and assist a possible immunity conferred on us by that very fact.

Precocious Dentition.—Dr. R. Lynn Heard (*British Medical Journal,* December 2d) relates the case of an infant, a girl delivered at seven months and a half. Labor was induced on account of justo-minor pelvis. The baby was perfectly normal and healthy in every way, but had the two lower central incisors appearing under the gum. These cut through in a few days after birth, the right on the fourth and the left on the fifth day, as well as the author recollects. As in Joukovsky's case, in a few days an abscess began to form and the teeth to loosen. Dr. Heard then extracted them, and, as in the other case, it required a distinct effort to remove them. They were typical milk teeth of a whitish color. For some time after the lateral incisors appeared there was a gap, but at the time of writing this had closed, and no one, unless they were in the secret, would remark anything amiss. This case is of special interest, owing to the fact that the teeth were cut at a period of seven-months-and-a-half gestation.

Intravenous Injection of Antidiphtheritic Serum in Grave Cases.—Gagnoni (*Annales de médecine et chirurgie infantiles,* August 15, 1899; *American Journal of the Medical Sciences,* December) reports three cases of grave diphtheritic angina complicated with croup and with symptoms of imminent suffocation occurring in young children, which, with the advice of Professor Sclavo, of Siena, he treated by intravenous injections of antidiphtheritic serum. The results were most satisfactory, the temperature falling to normal, and stenotic symptoms disappearing with the expulsion of false membrane.

General Surgical Anæsthesia and Anæsthetics.—Dr. Ernest J. Mellish (*Medicine,* December) concludes a paper on this subject with the following propositions: 1. Chloroform almost invariably kills by its effect primarily upon the circulatory system, and ether by its effect primarily upon the respiratory system. There probably are exceptions to both of these rules; consequently hair-splitting discussions on this point are unpractical and useless. 2. In anæmia of the medulla the patient should be placed in the head-down position. In sudden paralytic dilatation of the right heart, as after several deep inhalations of chloroform, the heart should be rhythmically compressed by squeezing the chest; or the patient placed temporarily in the feet-down posture to empty the heart, artificial respiration being constantly maintained. 3. Anæsthetics act directly or indirectly upon all the tissues, interfering profoundly with metabolism; and they tend to produce degenerative changes in the tissues, especially those of the vital organs. Of the anæsthetics in general use, chloroform is probably most dangerous in this respect. 4. Deductions based upon laboratory experiments are apt to be deceptive, and should be accepted with the greatest caution in regard to sick human beings, unless they agree with conclusions based upon clinical investigations. 5. As a rule, ether produces less circulatory depression than chloroform. It causes dilatation of arterioles and increased capillary circulation, thereby insuring a good blood supply to the circulatory and respiratory centres and to the heart muscle; consequently these systems are in less immediate danger with ether than with chloroform. 6. Cocainizing the nasal mucous membrane to antidote certain bad effects of anæsthetics is not a commendable practice. 7. On account of the reduction of body heat by anæsthetics, they should be administered in a warm room, and the patient should be protected from loss of heat so far as practicable by proper covering of the body, by application of artificial heat, and by protection from dampness of the skin. An excessively high room temperature will do harm by adding heat depression to anæsthetic—and operation—shock.* 8. Ether, when properly administered, is no more liable to produce nephritis than chloroform, perhaps not as much so. The changes produced in the kidneys by ether are as a rule temporary, while those caused by chloroform are apt to be more persistent. 9. Most of the pronouncedly dangerous effects of ether, and to a less extent of chloroform, upon the kidneys are due to poor preparation of the patient, faulty administration, bad after-treatment, or all of these combined. 10. Postanæsthetic nausea is best prevented by preparation and after-treatment which favor normal physiological tonus, with especial reference to the emunctories. Gastric lavage at the termination of anæsthesia, followed by vinegar inhalation, will in the great majority of cases prevent serious disturbance from nausea. 11. The danger from hæmorrhage is no greater with ether than with chloroform, perhaps not so great, since the bleeding which occurs from the effects of ether is primary and is more certainly provided against; while the circulatory depression and the vasomotor constriction due to chloroform to a great extent prevent primary bleeding and lead indirectly to later hæmorrhage. 12. The safety margin between sufficient chloroform for anæsthesia and the lethal dose is much narrower than it is with ether. 13. Patients should be well fed with easily digested and nonbulky food to within a few hours preceding anæsthetization, and should be allowed water to within two or three hours of it. If this plan is followed, shock will be less and elimination of the anæsthetic will be more rapid, and less harm is likely to accrue to the emunctory organs. For the same reasons water should be given as liberally as practicable after anæsthesia. 14. Routine methods in selecting anæsthetics should be avoided so far as practicable, the anæsthetic being selected according to the conditions present in the individual case. 15. Any anæsthetic, but especially ether, should be given with the greatest caution in the presence of special susceptibility to acute bronchial or pulmonary affections. 16. Further clinical investigation in the use of nitrous oxide is desirable and necessary, in order to establish its status in relation to surgery; but its general employment is not practicable. 17. The majority of inhalers on the market are bad. An inhaler made on the principle of the Esmarch chloroform mask is the cleanest, safest, and best for ether as well as for chloroform. However, the "open method" of administering ether is not practicable in the tropics, at great altitudes, or in open-air military surgery, on account of too rapid diffusion. 18. The ordinary tongue forceps is a barbarous instrument and is often barbarously used. 19. The mouth gag can usually be dispensed with; its use is often positively dangerous, from forcing the base of the tongue against the pharynx. 20. The post of anæsthetist is second only in importance to that of the operator, and the selection of an anæsthetist should be made with great caution where possible. *No person who has not a wholesome fear of anæsthetics can be trusted to administer them.* Beware of one who believes any anæsthetic to be "perfectly safe." 21. The anæsthetist should gain the complete confidence of the patient as to his ability and carefulness, so that the latter's mind will be at rest on these points. 22. Patients who greatly fear anæsthesia are the ones likely to give the most trouble to the anæsthetist. 23. Other things being equal, the intelligent and educated take anæsthetics better than those of low intellect. 24. The patient should be kept as free as possible from unnecessary noise and other disturbance during the induction of anæsthesia. 25. The pupillary reflexes constitute the best guide to the presence or absence of surgical anæsthesia. 26. The anæsthetist should watch carefully the pupils, pulse, respiration, and the color and condition of the skin, depending upon no single symptom as a danger signal. 27. The patient should be carefully watched from the beginning of the anæsthesia until fully restored to consciousness. 28. When anæsthetics are properly administered patients seldom struggle. 29. Noisy breathing during anæsthesia should be the exception, as it generally means faulty administration. 30. The minimum amount of anæsthetic should be given consistent with the production and maintenance of the desired degree of anæsthesia. 31. Compression of the phrenic nerve will, if properly done, usually control retching and kindred symptoms occurring during anæsthesia. 32. The use of drugs preceding and during anæsthesia should be avoided save where positively indicated, and if resorted to they should be used with the greatest care. It is best to depend almost wholly upon other means for the prevention of syncope or for resuscitation. 33. Anæsthetic mixtures are in general less safe than the "straight goods." One can not know the relative proportion of the different components that the patient actually inhales. 34. Partial or "talking" anæsthesia is advisable in some cases, but should be avoided in delicate or sensitive patients, especially for prolonged operations, unless the anæsthetic is taken quietly and with apparent abolishment of pain sense. 35. Finally, the subject of anæsthesia and anæsthetics should be thoroughly treated in medical colleges, and each student required to conduct a number of anæsthesias under the supervision of an expert.

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* The researches of Dr. Robert Coleman Kemp and Dr. W. H. Thomson, published in our issues for November 18th and 25th and December 2d, appear to directly controvert this proposition.

"Lobengulism," or Lipomatosis Universalis Asexualis.—Mr. Jonathan Hutchinson (*Polyclinic*, October), in a recent clinical lecture, said that among the most interesting of the cases which he had had before him were two illustrating the condition which he had described under the name of Lobengulism in volume vi of the *Archives of Surgery*. The peculiar features of this condition were a general increase of subcutaneous fat, in association with partial or complete abeyance of sex function. In men, the mammary glands enlarged and the sexual appetite failed; and in women, menstruation ceased. The cases referred to were presented on different days, but it would be convenient to describe them together. The male patient was a young man of twenty-one, of almost gigantic proportions, standing six feet two, and very stout. He was fat everywhere—face, limbs, and trunk; and large seams of atrophy had been produced in various regions by the stretching of the skin. He was quite beardless, and had large mammary glands. Although looking strong, he complained of feeling weak. He had hair on his pubes, but his sexual organs were small and his voice deficient in tone. No opportunity occurred for inquiry as to his sex function, and it is not suggested that it was wholly in abeyance.

In the other case, the patient was a young woman, who, formerly in good health and vigorous, had for two years been failing in strength and becoming fat. Her features were disfigured by the fatness of her cheeks, her voice was harsh, and she had ceased to be able to sing. There had been no menstruation for eighteen months. Enormous lineæ atrophicæ occurred along the borders of her armpits, and on her chest, abdomen, and thighs. Some of these were an inch or more in breadth. Different opinions had been entertained as to whether the malady was myxœdema or not, and treatment for that disease had been adopted. At Mr. Hutchinson's request, Dr. Ord was kind enough to join him in a consultation on the case. He agreed in the opinion Mr. Hutchinson had expressed, that it had nothing in common with myxœdema. They agreed in the diagnosis (nominal) of lipomatosis universalis, to which might perhaps be added the adjective asexualis. It might be noted that the influence of the sexual system in connection with the tendency to fatten had for long been matter of observation.

Epidemic Diarrhœa.—Dr. Arthur Newsholme (*Lancet*, December 2d), in an exhaustive paper recently read before the Incorporated Society of Medical Officers of

Health (England), summarizes the evidence collected by him as follows: "*a.* It is clear that towns with a high temperature and a deficient rainfall, especially in the third quarter of the year, suffer severely from diarrhœa. This relationship is so close that the towns may be classified meteorologically in the order in which they ought to stand in reference to diarrhœa, and their true relative position as to domestic and municipal sanitation may be ascertained when we know whether they occupy a better or worse position on the list of towns than that which their meteorological place would indicate as rightly belonging to them. *b.* It is clear that among populations living on impervious and rocky soils diarrhœa is not so prevalent, probably because polluting fæcal and other organic impurities do not cling to, or soak into, such soils. *c.* Diarrhœa is most prevalent where the systems of removal of sewage and house refuse are the least satisfactory. The exceptionally good position of certain towns in which pail closets are largely used must be regarded as due to the favorable climatic and physiographical position of these towns, probably aided by efficient municipal scavenging; and it is almost certain that their position might be still further improved by the general adoption of a water-closet system."

Dr. Newsholme concluded:

"The fundamental condition favoring epidemic diarrhœa is an unclean soil, the particulate poison from which infects the air and is swallowed, more commonly with food, especially milk. In other words, epidemic diarrhœa is, like enteric fever, a "filth disease." There are, however, certain points of contrast between the two diseases. In the *Annual Summary of the Registrar-General for 1898* is a table giving the average death-rates for diarrhœa and enteric fever, 1888–'97. The clew to the difference of incidence of the two diseases will, I think—apart from the fact that enteric fever is a disease more particularly of adults, who are in the habit of taking infected foods not eaten by infants—be found in the view that the causation of diarrhœa is most closely associated with surface pollution of the soil, that of enteric fever with less superficial pollution of the subsoil from cesspools and leaky drains, as well as from privy middens. It will be noted that I have hitherto refrained from discussing the influence of artificial feeding of infants with cow's milk in the causation of diarrhœa. Milk is, however, not the actual cause of diarrhœa. It is a vehicle of infection, just as mosquitoes are a vehicle of malaria, or rats of plague; and our ultimate research ought to be directed toward elimination—if it is practicable—of the actual conditions under which the contagia of these diseases are able to live."

Linear Electrolysis in Urethral Stricture.—M. Larroudé (*Gazette hebdomadaire de médecine et de chirurgie*, September 17th), in a Paris thesis, considers that linear electrolysis in urethral stricture and blennorrhœa presents the following advantages: 1. Easy operation, but slightly painful, applicable to all kinds of stricture save very hard ones. 2. Little or no blood exudation. 3. Rarely if ever followed by pyrexia. 4. No need for retained catheter. 5. The possibility of urinating immediately in a full stream. 6. The possibility of the patient in almost every case resuming his occupation the next day. 7. Further, according to the author, linear electrolysis in blennorrhœa produces a marked amelioration, is without any risk, and deserves such thorough trial that its real value may be established.

Pelvic Peritonitis in the Male.—Doyen (*Revue de chirurgie*, November 10th) says that pelvic peritonitis in the male, which has not been sufficiently studied, is produced in many ways. In certain cases it comes from below upward, taking its origin from the prostate or vesiculæ seminales, in perforations of the rectum, in osteitis of the anterior surface of the sacrum, or even from hydatid cysts in the pelvis. At other times it takes a descending course, and its commonest origin is then appendicular. In two cases of tuberculosis of the prostate, M. Doyen freely incised the perinæum, opened the rectum by two valvular incisions, and removed the prostate and the vesiculæ seminales.

Book Notices.

Twentieth-Century Practice. An International Encyclopædia of Modern Medical Science. Edited by Thomas L. Stedman, M. D., New York. Vols. XVI and XVII. New York: William Wood & Co., 1899.

These two volumes are devoted to certain of the infectious diseases. The first section in volume xvi is that on lobar pneumonia, by Dr. A. H. Smith, who defines the disease as one in which "a specific parasite invades the air cells of one or more pulmonary lobes, where it grows in a fibrinous medium exuded from the functional capillaries, and generates a toxine that infects the system at large," so that the author believes all cases of this disease are caused by pneumococcus infection. The clinical symptoms, ætiology, pathology, diagnosis, and treatment are described in considerable detail.

Dr. A. Netter has written the section on cerebrospinal meningitis. He regards the *Streptococcus meningitidis capsulatus* of Bonome as a form of the pneumococcus, and he deems it possible that Weichselbaum's *Diplococcus intracellularis meningitidis* is a degenerated form of the pneumococcus. While infection may reach the meninges by way of the nasal fossa, he thinks it usually occurs through the pulmonary alveoli. The ætiology, pathology, diagnosis, treatment, and epidemiology are described at length.

The paper on dysentery is by Dr. A. A. De Azevedo Sodré, who considers it an "infecto-contagious disease, endemic in warm countries, sporadic or epidemic in temperate regions." The author's efforts to prove the contagiousness of the disease do not convince. He considers the theory of the amœbic ætiology of the disease as the most likely, but believes that aerial conveyance of the dysenteric germ is beyond dispute. He deems the ipecac treatment one of the most satisfactory. There is not much said about the advantages of high enemata for lavage of the colon.

Dr. H. A. Alford Nichols describes yaws in a brief, well-written paper that gives a very satisfactory account of the disease.

Professor Ernst Ziegler has written the chapter on inflammation, which constitutes a most able presentation of the present state of our knowledge of this process.

Dr. Otto G. T. Kiliani is the author of the chapter on erysipelas, and he has reviewed carefully the various features of that disease.

Simple continued fever is described by Dr. Landon

B. Edwards, who very properly considers it a symptomatic fever due to hæmic or nervous causes.

Dr. Leo Popoff has written the paper on relapsing fever, in which the facts of that disease are carefully reviewed.

Dr. John S. Thacher is the author of the section on the ætiology and general pathology of typhoid fever, and those subjects are described with a thoroughness of detail that makes this a most valuable chapter.

Dr. John Winters Brannan, in his article on the symptomatology and treatment of typhoid fever, shows a wide knowledge of the literature of this disease, and displays a skillful analysis of his clinical experience.

The first article in the seventeenth volume is on the general pathology and bacteriology of diphtheria, and is by Dr. W. H. Park, whose name is sufficient authority for the thoroughness with which these subjects are treated. Dr. A. Jacobi is the author of the section on the symptomatology and treatment of diphtheria.

Professor Victor Babes contributes the section on tetanus, and he displays a very conservative view in regard to the treatment of the disease with antitoxine, which he thinks should be given so as "to inundate the organism continuously or very frequently with large quantities," his doses being from three hundred to five hundred cubic centimetres. While he regards this treatment as a marked advance, he thinks it should not restrain us from making use of other well-tried remedies.

The general pathology of cancer is described by Mr. W. Roger Williams. He dismisses the theory of the agency of microbes as no more necessary to account for the genesis of cancer than it is to account for the genesis of a tooth or a hair. While he does not think the disease can be transmitted from one person to another, he considers the disease inoculable, and he presents evidence to show the possibility of benign neoplasms taking on malignant characters. The author's views are well presented and he substantiates his positions by adducing well-considered evidence.

Dr. W. B. Coley is the author of the section on the symptomatology and treatment of cancer.

Mr. W. Roger Williams has contributed an excellent paper on the general pathology of sarcoma, and Dr. W. B. Coley has described the symptomatology and treatment of that form of neoplasm. He gives in detail the method of treatment with mixed toxines.

Dr. J. T. Bowen is the author of a section on malignant new growths of the skin, and Dr. Edward McGuire has described briefly the malignant diseases of the organs of generation in women.

Les Greffes urétérales. Par le Dr. P. Trekaki. Paris: A. Maloine, 1899. Pp. 135.

Within a period of possibly ten years the surgical treatment of ureteral injuries has undergone a great change. A number of causes have contributed to produce this change. Among them may be mentioned the greater frequency of injuries during abdominal operations, especially those by the vaginal route, and, secondly, the increased confidence of the profession in its ability to operate under conditions of shock which would have been regarded as a contra-indication to surgical interference a decade ago, and also to the confidence based on the experience that it is possible technically to suture the ureter and obtain primary healing. For these reasons chiefly there has grown up a considerable amount of surgical knowledge, partly based on animal experimentation and partly the result of bitter experience in repairing the damage done to the ureter during the course of an operation. The author of this small monograph has been one of the original investigators in this field and has endeavored to fairly cover the subject of ureteral anastomoses with some success.

The operation of uniting the severed ends of a ureter has been accomplished some fourteen times, with fair results, and the method of remedying vesical exstrophy by implantation of the ureters in the rectum has a recognized position as a surgical measure which can now be carried out with some degree of safety. The volume gives a good historical survey of the whole subject.

The Abdominal Brain and Automatic Visceral Ganglia. By Byron Robinson, B. S., M. D., Professor in the Chicago Post-graduate School of Gynæcology and Abdominal Surgery, etc. Chicago: The Clinic Publishing Company, 1899. Pp. 261.

This volume is an attempt to unite the scattered anatomical and physiological knowledge of the sympathetic system and to combine the whole so as to render that knowledge accessible and useful.

Interwoven with this information is a large amount of practical medical application of the facts in a manner to be extremely useful. The only criticism to be made is that the drawings are not so clear or so well printed as they might be.

Tesis para el Doctorado en la Facultad de Medicina. Por Pablo S. Mimbela. La Panhisterectomia Abdominal en los Fibromas Uterinos. Lima: San Pedro, 1899. Pp. vi–7 to 56.

In this thesis the author has collected from literature an excellent survey of the subject of hysterectomy for fibromyomata of the uterus, and adds to it one case observed personally in which there was nothing especially novel in either the operative method or the result.

Vital Science Based upon Life's Great Law. The Analogue of Gravitation. Agnosticism Refuted. By Robert Walter, M. D. Philadelphia: J. B. Lippincott Company, 1899. Pp. xix–17 to 319. [Price, $1.50.]

The author of this attractively bound book has discovered what he calls "life's great law," and during the exposition of this hitherto unknown "law" finds that he can also furnish "a new theory of creation," "a new theory of the constitution of Nature and man," "a new theory of vital force," and "a new proof of the immortality of man," also a number of subordinate truths, among which may be mentioned the "convincing proof that the paradoxes of Scripture and the Golden Rule are scientific and practical truths." We are sorry that the author should not have been more gentle in his refutation of the idea that Mr. Herbert Spencer knows anything about evolution.

BOOKS, ETC., RECEIVED.

A Manual of Gastric Methods: Chemical, Physical, and Therapeutical. By A. Lockhart Gillespie, M. D., F. R. C. P. E., F. R. S. E., Lecturer on Materia Medica and Therapeutics in the School of Medicine of the Royal Colleges, Edinburgh, etc. With a Chapter upon the Mechanical Methods used in Young Children. By

John Thomson, M. D., F. R. C. P. Edin., Assistant Physician, Royal Hospital for Sick Children, Edinburgh. New York: William Wood & Co., 1899. Pp. x–175.

The Medical Digest, or Busy Practitioner's Vademecum. Appendix, including the Years 1891 to March, 1899. By Richard Neale, M. D. Lond., Member of the Dutch Medical Society of Batavia, Java. London: John Bale, Sons, & Danielsson, Ltd., 1899. Pp. 261.

Baking Powders. A Treatise on the Character, Methods for the Determination of the Values, etc., with Special Reference to Recent Improvements in Phosphate Powders. By Charles A. Catlin, B. S., Ph. B., F. A. A. A. S. Providence, Rhode Island: The Rumford Chemical Works, 1899. Pp. 40.

Thirtieth Annual Report of the State Board of Health of Massachusetts. Public Document No. 34.

Proceedings of the Pathological Society of Philadelphia. November 1, 1899. New Series, Volume III. No. 1.

Some Remarks on the Symptoms of Bronchocele and the Results of Operative Treatment. By Francis J. Shepherd, M. D., of Montreal. [Reprinted from the *Annals of Surgery.*]

A Case of Laceration of the Intestine, with Rupture of the Mesenteric Artery, without a Skin Wound. By Francis J. Shepherd, M. D. [Reprinted from the *Montreal Medical Journal.*]

A Short Umbilical Cord as a Cause of Dystocia. With a Description of a New Symptom. By Samuel M. Brickner, M. D. [Reprinted from the *American Journal of the Medical Sciences.*]

A Contribution to the Study of Menstruation and Pregnancy in Nursing Women. By Samuel M. Brickner, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

The Wisdom of Surgical Interference in Hæmatemesis and Melæna from Gastric and Duodenal Ulcer. Being a Paper read in the Section of Surgery at the Annual Meeting of the British Medical Association, August, 1899, by G. E. Armstrong, M. D., of Montreal. [Reprinted from the *British Medical Journal.*]

The Best Methods in the Treatment of Appendicitis: their Sociologic Bearing. By Robert T. Morris, M. D. [Reprinted from the *Journal of the American Medical Association.*]

Complications and Treatment of Fracture of the Base of the Skull. By J. M. Elder, M. D., of Montreal. [Reprinted from the *Montreal Medical Journal.*]

Le Bégaiement dans la littérature médicale. Par M. Paul Olivier. [Extrait de *La Parole.*]

New Inventions, etc.

A NEW ASEPTIC EAR SPECULUM.

By Henry W. Wandless, M. D.,

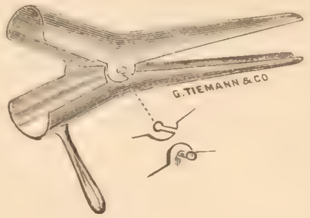
NEW YORK.

So complete and beautiful is the cut of this speculum that it seems to me little is left to be added regarding its mechanism. The lock consists of a peg and hole on the lower side and a peg and slit on the upper side. The lower peg is put in first; then, with the blades opened almost to their full extent, the upper peg is slid into the slit. The blades are held firmly and will not fall apart, yet are easily taken apart for cleansing purposes.

There are two essential advantages of this speculum, besides a number of minor ones. First, its easy and convenient manipulation in the ear; and second, it is easily cleansed.

It is as nearly self-retaining as any that I know of.

It is picked up by the little handle and placed in the external canal; then with the left hand it is manœuvred with the greatest ease, the blades being opened and closed as occasion demands with the tips of the fingers, using only such force as is necessary. Most specula, except the cones, are opened and closed by means of a screw, and one never knows the exact amount of pressure brought to bear upon an inflamed canal until the patient cries out with pain.



If hairs get in the line of vision, it can be rotated instantly, which carries the hair under the blades.

It is readily cleansed of the discharges which often obstruct the canal. Beyond doubt, this speculum has more advantages and fewer disadvantages than any other that I have ever seen. It is made by George Tiemann & Co.

45 West Thirty-second Street.

Miscellany.

Dysphrenia.—At a meeting of the New York Neurological Society, held on December 5th, Dr. William Hirsch read a paper with this title. He said that the term dysphrenia had been applied to the secondary, or sympathetic, psychoses in contradistinction to the idiopathic, or mental, diseases, such as mania and melancholia. The secondary psychoses, which were produced by bodily diseases, he said, were not characterized by the same uniformity of symptoms that marked the idiopathic variety. In the secondary psychoses there were frequent remissions with perfect lucidity during the course of the disease. Outbreaks of violence might be quickly followed by stupor. The speaker said that a further characteristic which he would call attention to was the occurrence of somatic symptoms, such as loss of pupillary or patellar reflexes, rise of temperature, irregularity of the heart's action, and certain vasomotor phenomena, such as œdema. In the secondary psychoses, the interstitial tissues, and particularly the blood-vessels, were the ones at first and mainly affected. This was in accord with the accepted pathology of the systemic spinal diseases. The changes in the interstitial tissues were produced by the diseases starting outside of the brain, such as the acute febrile diseases. There were a few cases in which, purely from the mental symptoms, one was justified in making a diagnosis of dysphrenia, even though ignorant of the exact nature of the underlying bodily disease. A case of this kind was then reported by Dr. Hirsch. The patient was a young and neurotic girl, seen by him first on September 5, 1896. She had then presented the condition of hallucinatory confusion. After an interval of quiet, on February 17, 1897, she became violent and had hallucinations of hearing and sight. At this time the temperature was normal. After about ten days she became stupid; her pupils were contracted, and the pulse was 60. After about a week automatic movements of the hands and head appeared. On March 14th menstruation came on, and she quickly became normal, and remained well for ten days. In April, 1897, she was given thyreoid extract, and quickly recovered. She remained well for nearly two years. On February 2, 1899, she was suddenly seized with the same violent symptoms as before. She showed some transitory improvement again under the administration of thyreoid extract, but soon passed into a condition of dementia. After about three months she became quieter; the pupils and patellar reflexes returned, the temperature became normal, and her breasts, which had been much enlarged, returned to their natural size. Since that time her mental state had been good. The clinical features of this case evidently did not correspond to any primary psychosis. A loss of reflexes was generally considered as indicative of permanent change, but it was not impossible that this symptom might exist in functional disturbance. In the case reported he believed that the menstrual disturbances were not the cause, but a symptom, of the disease, as in the fourth, or worst attack, menstruation had had little or no effect on the mental state. The speaker suggested that the term "originary dysphrenia" should be applied to cases which, in their clinical aspects, resembled those known to be produced by toxic or infectious agents, but in which no cause for such infection could be found.

Dr. B. Sachs said that probably everybody present had seen cases similar to the one described. He had himself had under observation a number of women between the ages of fifteen and twenty who had passed through very remarkable periodical mental changes. He had been much impressed with the suddenness with which these changes had occurred. All these patients had been members of highly neuropathic families. They had passed quickly from a condition of mania to one of depression. A patient now under his care had regularly had periods of six months or more in which she had been in a condition of maniacal excitement, and had then very suddenly passed into a condition apparently normal, but really only a stepping stone to a period of excitement. It was questionable, in his mind, whether the class of cases spoken of in the paper represented a distinct entity in mental diseases. Such marked physical changes as had been described in the paper had not come under his observation. The President (Dr. Frederick Peterson) expressed his belief that dysphrenia would be a convenient term for cases that it would be difficult to describe under other names. The trouble was that these terms in psychopathy were usually founded upon clinical symptoms, with but little reference to the pathology, so that after a time the word came almost to include all insanity. Last summer, at Heidelberg, he had found about four varieties of insanity recognized—viz., paresis, senile dementia, catatonia, and dementia præcox. About fifty per cent. of the cases in Germany at the present time were called catatonia, and the remainder were included under the term dementia præcox.

Chancre of the Eyelid.—At a recent meeting of the Section in Ophthalmology of the College of Physicians of Philadelphia, Dr. W. F. Norris related the case of a man, forty-five years old, who had presented himself at the dispensary of the hospital of the University of Pennsylvania on October 20th and stated that the disease had started two days before as a little white blister about a quarter of an inch from the external canthus of his right eye. There was marked swelling of the lids, with an indurated lump in the margin of the lower lid near the external canthus, about a third of an inch in diameter and yellowish. The bulbar conjunctiva was highly chemosed and there was a slight conjunctival secretion. The patient had severe nocturnal pain in the forehead and temple. There were no posterior synechiæ or other evidences of inflammation of the iris. He was ordered a solution of atropine and ten grains of potassium iodide, the dose to be increased two grains daily. Four days later the face, the lids, and the glands of the neck were much indurated and swollen; the yellow lump on the lower lid had broken down, leaving an irregular open sore and ectropion of the lower lid. The severe symptoms gradually subsided, and on the 27th there was no pain, and the swelling of the lids and the chemosis had decreased. The upper margin of the cornea was the seat of several small superficial ulcers. Holocaine was applied to the ulcers, and the sore on the lid was touched with five-per-cent. solution of protargol, later with mercuric bichloride 1 to 500. On November 1st there was an indurated sore with a sharp-cut excavation. The patient had progressed steadily, and at the time of the meeting, November 21st, the inflammation had subsided, the ulcer was nearly filled, and there were three minute elevations on the margin of the lid just beyond the outer edge of the ulcer. There was no history of infection to be obtained, no lesion or scar on the penis, and there were no symptoms of secondary or tertiary syphilis. The patient attributed the lesion to traumatism, and said that some days before the symptoms appeared the lid was penetrated by a splinter of glass that was removed by a fellow-workman.

The New York Academy of Medicine.—At the last stated meeting, on Thursday evening, the 21st inst., Dr. Richard van Santvoord read a paper entitled The Clinical Uses of the Sphygmograph.

At the next meeting of the Section in Laryngology and Rhinology, on Wednesday evening, the 27th inst., the following papers will be read: The Use of the Suprarenal Extract in Diseases of the Nose, by Dr. W. H. Bates; and Diabetic Ulcers of the Throat, by Dr. W. Freudenthal. The discussion on Dr. Beaman Douglass's paper, A Study of the Application of the Galvanocautery in the Nose, will be continued, cases will be presented, and specimens and new instruments will be exhibited.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 28th inst., Dr. G. Peckham Murray will read a paper entitled A Second Contribution to the Study of Ulcerative Lesions of the Uvula (?), commonly called Lupus or Esthiomène. Dr. A. H. Goelet and Dr. H. J. Garrigues will present patients and exhibit specimens and new instruments.

The Late Dr. Samuel Ketch.—Immediately after the stated meeting of the Orthopædic Section of the New

York Academy of Medicine, held on December 15, 1899, had been called to order, it was, on motion, adjourned out of respect to the memory of Dr. Samuel Ketch, and a committee was appointed by the chair to express the sentiments of the section.

The committee reported as follows:

The Orthopædic Section of the New York Academy of Medicine desires to express its profound grief at the sudden death of Dr. Samuel Ketch, one of its most useful and honored members.

An original member of the Orthopædic Society, since merged in the Orthopædic Section of the academy, he served as its secretary in 1889 and as its chairman in 1891, presented several valuable original contributions, and was at all times prominent in everything pertaining to its best interests and progress.

Identified with the practice of orthopædic surgery for nearly twenty-five years, and in every way devoted to the advancement of his chosen work, his life was one of consistent uprightness and honest and successful effort.

[Signed.] Henry Ling Taylor,
Newton M. Shaffer,
Reginald H. Sayre, } *Committee.*

The District of Columbia Antivivisection Bill.—We take pleasure in publishing the following appeal to the members of the medical profession in the United States:

The cause of humanity and of scientific progress is seriously menaced. Senator Gallinger has again introduced into congress the bill for the further prevention of cruelty to animals in the District of Columbia, which he has so strenuously and misguidedly advocated in the last two congresses. Its present number is "Senate Bill No. 34." Twice the committee on the District of Columbia has also unfortunately and misguidedly reported the bill with a favorable consideration. The bill is speciously drawn to seem as if it were intended only in the interest of prevention of cruelty to animals. The real object of the bill is twofold: First, to prohibit vivisection; and, secondly, to aid the passage of similar bills in all the State legislatures.

I need hardly point out to you that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry and the three medical departments of the government—the army, the navy, and the Marine-Hospital Service. The animals themselves might well cry out to be saved from their friends. No more humane work can be done than to discover the means of the prevention of diseases which have ravaged our flocks and herds. All those who raise or own animals, such as horses, cattle, sheep, pigs, chickens, etc., are vitally interested in the preservation of their health and the prevention of disease.

The inestimable value of these scientific researches as to the prevention and cure of disease among human beings it is superfluous for me to point out. Modern surgery and the antitoxine treatment of diphtheria alone would justify all the vivisection ever done.

As my attention has been called officially to the introduction of the bill, I take the opportunity of appealing to the entire profession of the country to exert themselves to the utmost to defeat this most cruel and inhumane effort to promote human and animal misery and death, and to restrict scientific research. It is of the utmost importance that *every physician* who shall read this appeal shall *immediately* communicate especially with the senators from his State, shall also invoke the aid of the representatives from his or other districts in his State, and by vigorous personal efforts shall aid in defeating the bill.

It is especially requested also that all the national, State, and county societies at their next meeting take action looking toward the same end. If regular meetings are not soon to be held, special meetings should be called. Correspondence is invited from all those who can give any aid.

The committee on the District of Columbia consists of Senator James McMillan, chairman, and Senators J. H. Gallinger, H. C. Hansborough, Redfield Proctor, J. C. Pritchard, Lucien Baker, C. P. Wetmore, C. J. Faulkner, Thomas S. Martin, W. M. Stewart, and Richard Kenney. Personal letters may be addressed to them or to other senators. Petitions should be addressed to the Senate of the United States.

[Signed.] W. W. Keen,
President of the American Medical Association.

The Medical Society of the State of New York.—Owing to the illness of the secretary, the announcement of the business committee has been unavoidably delayed. Dr. Wendell C. Phillips, of No. 350 Madison Avenue, New York (chairman), Dr. Henry L. Elsner, of Syracuse, and Dr. Chauncey P. Biggs, of Ithaca, are the members of the committee. We learn that the preliminary programme will be published about January 1st.

A Physiological Interpretation of the Couvade.—In our issue for July 8th we described the Curious Custom of the Couvade. M. Charles Féré (*Société de biologie; Revue médicale*) refers to this subject apropos of the curious phenomenon of the intractable vomiting of a man during his wife's pregnancy. Féré agrees with Weir Mitchell in considering these phenomena to be imitative. The subject in question presented at the time of his wife's accouchement violent lumbar and spinal pains, a condition of acute anxiety, with hyperæsthesia of the skin of the abdomen and breasts. On the occasion of a second pregnancy he presented similar phenomena. These phenomena actually realize what is symbolized in the "couvade." The explanation is to be sought in imitation and sympathy—suggestion, in fact—in one predisposed.

White Swelling.—At a meeting of the Section in Orthopædic Surgery of the New York Academy of Medicine held on October 20th the chairman, Dr. A. B. Judson, read a paper on The Pathology and Treatment of White Swelling of the Knee. He said that with the scientific progress of the day great changes were taking place in our knowledge of disease. Although pathology took the precedence in medical studies, she was a fickle divinity. We learned, but with the prospect of having to unlearn, and the all-wise, unwise public perceived this, and, when in dire straits, went doubtfully away, "trembling, hoping, lingering, flying," to fanes where the divinities were not only fickle but meretricious. In white swelling of the knee, however, it was sufficiently established that use of the inflamed joint aggravated and prolonged the disease. Arrest of motion and cessation of weight-bearing necessarily followed as a part of rational treatment. He described apparatus and presented several patients.

Judge-made Law.—The *Journal of the American Medical Association* for December 2d says editorially that, according to an item in the daily press, a Missouri judge has recently decided that any physician who believes the case of a patient to be a hopeless one and fails to so inform him is guilty of a breach of trust. This is a decision that cuts both ways. It may be wrong under certain circumstances to encourage false hopes, but who, asks the *Journal*, has endowed us with prophetic powers, and what experienced physician has not seen what seemed to be hopeless cases recover? Again, how often do we not know that the abandonment of hope on the part of the patient means a quick succumbing to the disease, when otherwise life is at least prolonged, even in hopeless cases! In such a case the course indicated by this decision would simply mean murder, and if it ever compelled any one to act in accord with it, the judge would be responsible. If physicians claimed to be infallible, the case would be different, and the decision might be a little more rational, but even then it would deprive them of the use of a most important therapeutic resource, the patient's courage and hope, and would therefore be criminal; but as things are it is both criminal and idiotic—a blunder and a crime.

The Yale Medical Alumni Association Lecture was given in New Haven on December 13th by Dr. William P. Northrup, of New York, on Some Paths of Tuberculous Infection.

The Economic and Religious Use of Cow Dung in India and its Bearing on Plague.—We clip the following from an editorial in the *Indian Medical Record* for October 25th:

"As charity is said to cover a multitude of sins, so religion offers a cloak to many curious superstitious, and often revolting, customs; among the latter may be classed many of the uses to which the various products of the cow are put by the followers of the Hindu faith.

"According to the *Bombay Gazetteer*, the *mantra* or sacred verse recited on the Sravani Day, when the products of the cow are exhibited, may be translated thus: 'By the drinking of the five products of the cow, the sin which has penetrated into my skin and bones is burned like fuel by fire.' In fact, the filthy concoctions of the pharmacopœia of the middle ages are equaled, if not surpassed, by the ignorant Hindu of the present day, whose blind faith attributes medicinal virtues to the evacuations of his sacred animals.

"The economic importance of cow dung in India can hardly be realized by any one who has not a personal acquaintance with the country. It appears to be essential to the existence of the lower classes. The native lives surrounded by it, he plasters the floor and walls of his house with it, he sprinkles it about his courtyard, it is his staple article of fuel, while the outside of his house affords a convenient site on which to stick cakes of it to dry in the sun. The atmosphere of a native village is pervaded with the smell of cow dung, and in this atmosphere the native lives and has his being. It is estimated that eleven hundredweights per acre are applied to the floors of ordinary native dwellings in India each year, while it is calculated that a hundred and twenty hundredweights would be sufficient for an acre of land for the purpose of manure.

"It seems doubtful whether the practice is performed more in accordance with the precepts of the Hindu sacred laws than simply as a measure of utility. The author of *Govinda Samanda, or the History of a Bengal Raiyat,* offers the suggestion that its use indicates it to be a disinfectant. In describing and commenting in chapter xi on the use made of cow dung, he says: 'The women of the household make a solution of cow dung and water and sprinkle the liquid by the hand on the open yard, which is next swept with a broom. . . . The rooms and the verandas require to be cleansed and washed in another fashion. As the flooring was entirely of earth, there being not a single brick or stone in the house, or a plank of wood either, every inch of the floor of every room was besmeared by means of a bit of rag with the said solution of cow dung and water, and allowed to dry itself. . . . The floor greatly improves by the process. It becomes smooth and glossy, and no cracks are visible. And as for any disgusting smell, there is nothing of the sort—the smell, if any, being positively pleasant. Hindu peasants besmear their cottages with a solution of cow dung and water, because cow dung is regarded ceremonially as a purifier. It is, however, a question why Hindu lawgivers should have pitched upon cow dung as a purifier. . . . From the universal practice of the Hindus of Bengal I should be inclined to think that cow dung was a disinfectant.'

"A native work on Aryan medicine makes reference to the use of cow dung and other products of the cow in ceremonial processes of purification, and to the value of cow dung as an agent for cleansing and purifying floors and walls. It also mentions its utility when mixed with cow's urine to allay the itching of prurigo and effect the cure of certain chronic skin diseases. Mixed with salt, it is recommended as an application to check excessive sweating of the hands and feet."

It is small wonder that with such a condition of sanitary affairs, which, however, the religious prejudices of the people render any violent interference with impolitic and practically impossible, plague and cholera seem to have an abiding place in India. Various plans of floor disinfection, as, for instance, sprinkling the floor with a wash of corrosive sublimate, have been tried by the government; but it would appear that chemical changes go on between the albuminoid material and the ammonia of the cow dung that render the corrosive sublimate inoperative. "The number of bacilli found on examining cow-dung floors varied between 5,402,000 and 90,800,000." Among the organisms present were *Bacillus subtilis, Bacillus vulgatus, Bacillus enteritidis sporogenes,* and *Bacillus coli communis.* The *Record* comes to the conclusion that the kiln method of burning floors as used in Hyderabad is in every way better than attempts to chemically disinfect them.

The Latest Therapeutic Fad.—According to the *Gazette médicale de Paris* for August 19th, the latest discovery exploited among a special group of physicians and destined to revolutionize the therapeutic art is lapidotherapy, or the treatment of diseases by precious stones. We are not told how the gems are applied.

A Case of Sarcoma of the Stomach in a Child aged Three Years and a Half is recorded in the *British Medical Journal* for December 2d by Dr. James Finlayson, consulting physician to the Royal Hospital for Sick Children, Glasgow. This would appear to be the youngest subject of sarcoma of the stomach on record.

A State Institute of Serum Therapy, Vaccination, and Bacteriology, to bear the name of Alfonso XIII, has, we learn from the *British Medical Journal* for December 2d, been created in Madrid by a royal decree dated October 28th. The new institute is organized on the lines of the Institut Pasteur.

THE NEW YORK MEDICAL JOURNAL, December 30, 1899.

Original Communications.

TUBERCLE GERMS AND GIANT CELLS IN HUMAN TISSUE.

[From the Pathological Laboratory of the University of Michigan.]

By PHILIP DAGGETT BOURLAND, B.S., M.D.,
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An examination of the literature reveals the fact that opinion is not unanimous on the relation between tubercle bacilli and giant cells. Not only do statements vary concerning this relationship in human tissue alone, but the assertion has been made that the giant cells of human tubercle rarely contain bacilli, while those of spontaneous or inoculated tuberculosis of the lower animals commonly inclose them.

Mention is therefore permitted of my own experience in the examination of numerous specimens of tuberculous tissue taken from various parts of the human body, and also reference to some of the more important communications on the subject.

Koch makes the giant cells of tubercle subjects of considerable importance. In his paper on The Ætiology of Tuberculosis he devotes considerable space to them and their relation to tubercle bacilli. Some of his statements are especially striking and are here quoted. "The conclusion that the infective agent must be contained in the giant cells has been proved correct, for, as soon as giant cells appear in a tubercle, we find, almost always, tubercle bacilli in them." Koch discusses at some length the conditions governing the number of bacilli in a giant cell, and the favorite seats of the former within their host. He pictures germ-containing giant cells from the human lung and mentions the occurrence of bacilli in a majority of such cells in certain cases of tuberculosis of the human liver and spleen.

Slowly progressive processes, such as tuberculous lymphadenitis, joint inflammations, and the like, are characterized, according to him, by very few tubercle bacilli, and the occurrence of these almost exclusively in the giant cells. Usually, however, only one germ, or at most a few, are inside of a cell. In more intense processes the germs are more abundant and one giant cell may inclose fifty or more.

Weigert substantiates Koch's statements as follows: "The remarkably frequent occurrence of bacilli in the giant cells must be touched upon. It is very striking, and Koch was right in saying that every tuberculous giant cell contained or had contained a germ. The bacilli not only occur in these cells, but they have favorite seats within them. They occupy, by choice, the periphery of the portion free from nuclei, and also the border of the nuclear part. Sometimes they lie between the nuclei, etc." It is not evident whether Weigert refers to human tissue, but it may be assumed that all kinds of sources were drawn upon for his material.

The statements of Orthmann prepare one for an occasional disappointment in the search for germ-inclosing giant cells. In the granulations from a tuberculous breast he failed to demonstrate tubercle bacilli in spite of the presence of numerous giant cells. Sections from neighboring lymph glands, however, furnished some giant cells containing each not more than one bacillus. Tissue from a second breast case contained many giant cells, most of which inclosed from one to three bacilli, while a few contained from five to eight.

Fütterer and Krückmann lead one to an opinion different from that expressed in the foregoing quotations. The former, in reporting the microscopic findings in cases of caseous broncho-pneumonia, miliary tuberculosis of the lungs, of the liver, and of the kidney, states that, while many of his sections showed bacilli and numerous giant cells, in no case were the former within the latter. Krückmann makes no mention of the inclosure of bacilli by giant cells in his descriptions of many cases of tuberculosis, among them both lung and joint cases.

It would be hard to draw a definite conclusion from the matter thus far presented, and the following statements from works on general pathology do not offer much help. Payne, for instance, speaks as follows: "One peculiarity should be mentioned as to giant cells which constitutes a difference between human tuberculosis and that of some animals. In specimens from the human subject the giant cells very rarely contain bacilli. The writer has never seen them in that situation, and observers of much larger experience have confirmed this negative result. On the other hand, in inoculated tubercle and the spontaneous disease of some animals—for example, of cattle, poultry, and horses—bacilli are very common in giant cells. No satisfactory explanation has yet been given of this difference."

Coÿne, after stating that the bacillus of Koch occupies, as a rule, the centre of the giant cell "in a more or less considerable number," notes a difference between the giant cells of man and those of the lower animals as regards their phagocytotic properties, in the following words: "One does not find in man all the transformations of the bacillus in the giant cell; one sees only that the bacilli are dead and stain poorly, etc."

The statements of some other authors, however, admit of no question. Schmaus remarks that in the interior of the tubercle and in the giant cells tubercle bacilli are constantly present, even if it is impossible to demonstrate them microscopically, as is often the case in old tubercles. Orth speaks in the same strain, to the effect that the tubercle bacilli, which are found especially in the giant cells, are necessary and integral parts of the tubercle, etc. Stengel expresses his views as follows: "The giant cells in particular may contain large numbers of bacilli. As the necrotic changes increase, the bacilli become less and less conspicuous, and eventually none may be visible. The existence of the bacilli or their spores, however, can not be doubted, as portions of such tubercles cause disease in guinea-pigs when injected."

Hamilton says that in the horse the giant cells frequently absorb bacilli in large numbers, while Ziegler contents himself with the assertion that giant cells often inclose bacilli.

My own experience is confined to human tissues. I have kept no record of the number of giant cells examined, but can say that it is in the thousands. The material used included lung, liver, kidney, and spleen tissue, also lymph glands, and in one case granulations from a tuberculous knee. Three cases were drawn upon for the tissue—one of chronic ulcerative phthisis, one of acute miliary tuberculosis, and the knee case already mentioned. In only four instances did I find tubercle bacilli within giant cells. Three of these examples of germ inclosure occurred in lung tissue and the fourth in the liver. The chronic ulcerative case furnished one lung specimen, and also that from the liver. The other two examples were from the acute miliary case. Tubercle bacilli could not be demonstrated in the knee granulations, though these were unusually rich in giant cells.

The microscopical findings are as follows:

Acute Miliary Tuberculosis.—I. Small tubercle whose centre shows beginning caseation, although the reticulum is still faintly visible. There is but one giant cell in the tubercle; it lies at the edge of the slightly caseated part, is of medium size, and has a faintly reticulated protoplasm and numerous nuclei which stain well and are gathered at one pole. The bacilli are two in number; they stain distinctly; one lies just below the row of nuclei and the other at the opposite pole.

In the tubercle, outside the giant cells, germs are absent from the central partially caseated portion at the edge of which the giant cell lies. About the periphery, however, in the transition zone between the centre and the part showing merely slight chromatin diffusion, germs are found in small numbers. But five giant cells are present in this section.

II. Large, oval, reticulated tubercle with practically no caseation. It contains one giant cell, which lies near one end in the median line. The giant cell is large and finely reticulated; nuclei are numerous and occupy half of the periphery. One tubercle bacillus is inclosed in the cell; it lies just beneath the nuclei and stains deeply. But one germ is to be seen in that part of the tubercle which immediately surrounds the giant cell, and the rest of the tubercle is quite germ-free. The section contains six giant cells.

Chronic Ulcerative Phthisis.—Lung section: Small caseating tubercle; the centre takes a diffuse faint stain; reticulum very faint; cells with deep-staining nuclei about the periphery. The tubercle contains two giant cells about midway between the centre and the edge. One giant cell contains two bacilli; the cell is small and caseated in the centre; the nuclei almost completely surround the cell. The germs stain faintly and are beaded; one lies in the middle of the caseated centre, the other just within the nuclear ring. As in the preceding cases, germs are absent from the caseated part of the tubercle and present in the transition zone of beginning necrosis which circumscribes the centre.

Liver section: Small tubercle with incipient caseation in the centre; contains three giant cells—one of fair size and caseated, the others small. These are situated about equidistant from each other and about midway between the centre and periphery of the tubercle. The large giant cell contains one bacillus, lying close to the nuclei, which occupy half the periphery of the cell. The bacillus stains poorly. The section contains no other tubercle germs, notwithstanding the presence of numerous tubercles and thirty giant cells. Examination of sections from other parts of the same organ gave results wholly negative, although they also showed tubercles and giant cells in abundance.

The granulation tissue from the knee joint is made up mainly of giant-cell tubercles. There is no caseation except in the giant cells themselves. Numerous serial sections fail to show any bacilli, nor are any found in sections from other parts of the block. This result is especially interesting in view of the statements of Koch, quoted at the beginning of this paper.

In considering the question of difference between giant cells of human tissue and that of the lower animals the literature is of little service. The question is one which evidently has occurred to few investigators. The statements found, with the exceptions noted, make no discriminations depending on the source of the material and lead one to assume that the latter is a factor of no consequence. It is not my purpose to discuss the factors governing the presence of tubercle bacilli in giant cells nor to attempt to explain the discrepancies between the many statements made in that connection. That germ inclosure occurs in the giant cell of human tissue there can be no doubt, but the opinion evidently is justified that the relation between bacilli and giant cells is a variable one and not fixed by anything apparent in the light of our present knowledge.

The question of technical skill may be raised in considering the value of statements on a subject of this nature. I have always used warm, freshly prepared carbol-fuchsine, and stained at least fifteen minutes, that time having been found ample by experiment. My sections were invariably in paraffin and cut at ten microns. The following method of Schmorl's has proved most satisfactory, and by its use one can, I believe, be more sure of staining all the bacilli in a section than by the methods in which the section is fixed to the cover slip before staining:

1. The sections cut in paraffin at five or ten microns are floated on freshly prepared, warm carbol-fuchsine, which should be heated to just below the melting point of the paraffin.
2. Stain fifteen minutes, keeping stain warm.
3. Wash in water.
4. Decolorize in ten-per-cent. nitric acid.
5. Wash in two changes of water.
6. Transfer to Loeffler's methylene blue.
7. Wash in water.
8. Pick section up on end of slide and orient it.
9. Dry with blotting paper.
10. Hold high above flame to complete drying.
11. Pass through flame to melt paraffin.
12. Plunge into xylol and leave till cleared.
13. Drain off xylol and mount in balsam.

The section may be conveniently handled on a cover slip held in forceps, or on the end of a slide.

A much shorter time is sufficient for staining than is usually allowed. Fifteen minutes I regard as ample to insure safe results, but I have made very satisfactory preparations by staining only three minutes. The whole process of cutting, staining, and mounting may be accomplished in ten minutes.

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The Seventh International Otological Congress.—According to the *Glasgow Medical Journal* for December, it has been decided that, owing to the date of the International Medical Congress falling in 1903, the next International Otological Congress shall take place, not n that year, but in 1902. The meeting will be held at Bordeaux, under the presidency of Dr. Moure.

AN ARRANGEMENT OF GASTRIC INSTRUMENTS DEVISED TO FACILITATE THE PHYSICAL EXAMINATION OF THE STOMACH AND ITS TREATMENT.

By CHARLES S. FISCHER, Ph. D., M. D.

There have been many methods and instruments recommended for the determination of the size, location, capacity, and motivity of the stomach. For ordinary clinical purposes that method can be accepted as the best which furnishes us the completest data in the shortest possible time, with the least inconvenience to the patient. It has been my experience that in order to obtain the exact physical condition of the stomach, it is not safe to rely upon any one method, and cases constantly present themselves which are difficult of examination and obscure at best. The temperament of the patient and his physical proportions on the one hand, and the time and experience of the examiner on the other, often stand in the way of a successful diagnosis.

In view of these facts, I have endeavored to construct an instrument which would in some way tend to alleviate the difficulty of examination and render it possible to combine at one sitting the various methods, in the hope of arriving at some satisfactory conclusion in a short space of time and with the least inconvenience to patient and examiner.

It is in the matter of construction and application of its component parts that the novelty of the instrument lies, not in any originality of principle, for the intragastric light, electrode, and douche are well known. Their successful application, however, has often failed, and thereby brought them into disrepute, purely on account of the difficulty of manipulation and the time required to accomplish the desired effect.

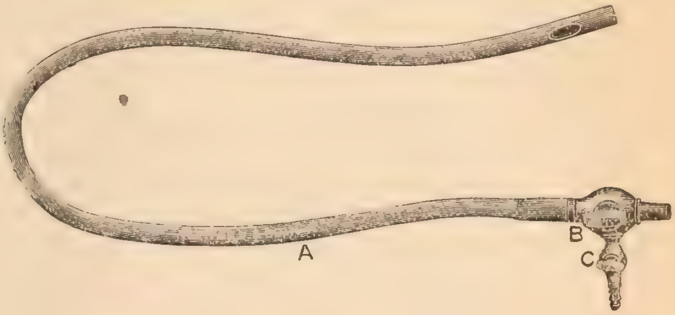

Fig. 1.

The instrument proposed consists of an outer or primary tube and four smaller or secondary tubes. The primary tube (*A*) is an ordinary lavage tube of very soft and flexible rubber, twenty-eight inches in length and three eighths of an inch in diameter. The gastric end of this tube is open and possesses the usual eye, the edges of both being well beveled. To the external end of the tube is attached a hard-rubber double stopcock. The larger stopcock (*B*), the diameter of which corresponds to the diameter of the tube, serves the purpose of admitting fluids by attaching to it the ordinary funnel and suction tube used in lavage. The smaller stopcock (*C*), placed at right angles to the larger one, is used for the inflation of the stomach by attaching to it a soft-rubber double bulb. The arrangement of both stopcocks is such that when one is closed the other is open.

The smaller or secondary tubes (*D*), to which are attached the intragastric light, electrode, and douche, are so constructed that they may be passed through the larger opening (*B*) of the primary tube without necessitating its removal from the stomach, and consequently without irritating the œsophagus and gastric mucous membrane. In this manner they may be passed successively at one sitting and may serve the purpose of diagnosis or treatment for which they are intended.

The construction of these instruments is essentially the following: The tubes used for this purpose are small, smooth rubber tubes (length, thirty-one inches; diameter, a fifth of an inch). In order to give them sufficient stability to enable them to be passed through the primary tube they inclose in the entire length a piece of whalebone, securely attached at both ends.

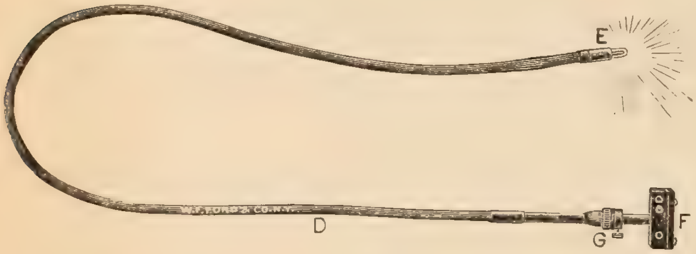

Fig. 2.

In the case of the illuminating apparatus the small tube contains, besides the whalebone, the wires necessary for the intragastric lamp (*E*). To the upper end of this tube is cemented a metal tube, to which is attached a cube of hard rubber (*F*) possessing cups for the pin connections of the wires going to the battery. Surrounding the metal tube is an adjustable metallic clamp (*G*), supporting a tubular rubber stopper, by which the lumen of the larger stopcock (*B*) may be securely closed.

The position of the tubular stopper can be changed by shifting the clamp (*G*), thus enabling the operator to know exactly to what distance the light projects beyond the lower opening of the primary tube. The tubular rubber stopper, by securely closing the larger stopcock (*B*), enables the operator to inflate the stomach through the smaller stopcock (*C*) at the same time that the light is in position in the stomach, without removing any portion of the primary apparatus.

The advantage of this arrangement to both patient and operator can readily be seen. The interior structures of the secondary tube (*D*) never come in contact with any of the gastric or lavage fluids, so that absolute cleanliness, durability, and greater brilliancy of the light itself are secured. I believe that the discredit into which the intragastric lamp, as a means of diagnosis, has fallen in recent times is largely due to the fact that it has never been possible to control the stomach itself during the operation.

Most physicians have no time for, and most patients rebel against, the successive introduction of various stomach tubes at one sitting; consequently the organ was usually examined under unfavorable conditions. It was either filled with turbid fluid, or its walls were in a collapsed condition, and both patient and physician grew tired of the repeated passage of the several tubes necessary to prepare the stomach for the examination.

With this instrument simply one tube comes into contact with the patient. The stomach is cleansed by lavage through this primary tube and a desirable quantity of clean water is left in for the necessities of the light. The secondary lamp tube is passed without any disagreeable sensations to the patient and the opening to the larger stopcock is closed by the tubular stopper. The operator can now examine the stomach under any condition of distention by either introducing water or air through the smaller stopcock (*C*).

No dark room is necessary for the examination, as an apron made of black cloth can be fastened around the patient's waist and the examination conducted beneath this. It is also desirable to employ a battery composed of several dry cells connected by a switchboard, so that the strength of the light may be regulated at will. This arrangement will in part overcome the objections hitherto imposed upon the light, that adjacent intestinal structures were incorporated in the picture, for by increasing or decreasing the quantity of light the exact position of the lamp itself can be determined.

I said at the commencement of this paper that it was not safe in examining the stomach to rely upon any one method; but the inconvenience attendant upon the various methods and instruments is what most patients object to, and to the active practitioner the element of time is of great importance. To determine these factors rapidly with this instrument the following routine is advisable. It involves the method of Leube for the determination of the motivity of the stomach, that of Penzoldt for locating the greater curvature and the tone of the gastric walls, that of Bouveret for establishing its size and location, and the transillumination method of Einhorn. These are the quickest methods for clinical purposes, and, taken in combination, yield sufficiently accurate results.

The patient is given the usual Leube test meal in the morning, and told to present himself for examination seven hours afterward. The primary tube is passed and the stomach washed to determine the presence of any residue of food. Having completely emptied the organ of all its contents, the patient is placed in an erect position and the gastric region percussed rapidly. Water is now introduced in one-pint quantities, the tone of the walls determined, and the greater curvature located according to Penzoldt's methods. Having finished this operation, the fluid can be siphoned off and the stomach filled with air through the smaller stopcock. Its size is thus determined according to the method of Bouveret. This operation finished, the intragastric lamp can be introduced through the primary tube, after having allowed the escape of the air, in order to confirm the conclusions arrived at by the previous methods.

All this can be accomplished in a very short space of time, and without great inconvenience to the patient, for only one gastric tube has been really passed. Other methods, such as those of Dehio and Rosenbach, can be incorporated in the same, if it is found to be advisable. In this manner we determine at the same time the motivity, the size, the location of the stomach, and the muscular tone of its walls.

So far as irritability of the gastric mucous membrane is concerned, it will usually be found that the previous extraction of test meals will have sufficiently prepared the patient for manipulation, for the physical examination of the stomach should be attempted only after its secretory functions have been determined previously. This should be repeated several times, in which case it assures not only the success of the physical examination, but also that of the chemical examination of the gastric contents. Cases will be found at times where the irritability of the stomach is so great and so constant that no examination whatever can be made. But even in these cases a course of primary calming treatment will often render the examination possible.

The remaining sections of this instrument consist of the intragastric douche and electrode. Their construction is the same in principle as that of the lamp, and they are applied through the primary tube. The advantages of this method of application can again be seen. Here, as with the lamp, the stomach can first be prepared for treatment by means of the primary tube.

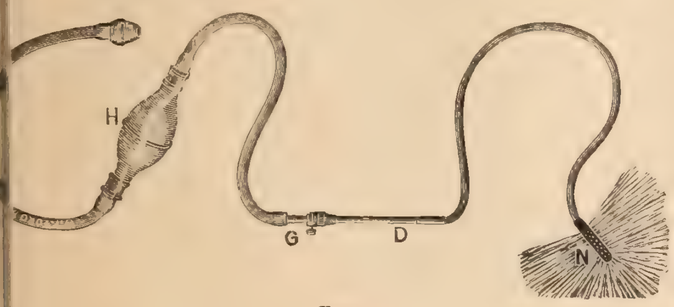

Fig. 3.

The intragastric douche consists of the secondary tube (*D*), carrying at its lower end a hard-rubber capsule (*N*), the perforations of which are so minute as to produce a needle spray of universal direction. The external end of the tube is armed with a metallic tube, to which is attached the movable metallic clamp (*G*), supporting the tubular rubber stopper. The douche fluid is forced through the secondary tube under pressure from an ordinary Davidson syringe. The diameter of the secondary tube is such that it passes easily through the primary tube, but, should there be any constriction of the primary tube at any point, it is well to apply a little benzoated vaseline.

In the old form of instrument, which consisted simply of a closed stomach tube perforated at its lower end by numerous openings through which the douche fluid was forced from a fountain syringe, it was never possible to get very beneficial results, owing not only to the difficulty of manipulation but also to the uncertainty of its action.

In order that the intragastric douche may be beneficial at all, it is first necessary to prepare the stomach for its reception. Heretofore, if this was done it was only possible by first passing an ordinary lavage apparatus to cleanse the cavity of the organ, removing this and passing the douche tube, which was finally attached to the fountain syringe. Even after this complicated process, it was never possible to count upon the efficiency of the douche, for the perforations of the tube often became plugged with mucus in their passage through the œsophagus and there was no douche at all, or, what is more important still, the walls of the stomach were not in proper condition to receive it.

Even if the cavity of the stomach was thoroughly emptied and cleansed by the operation of lavage, this very act of itself excluded the possibility of effectiveness on the part of the douche by leaving the organ in a state of collapse. This state of collapse, however, is entirely antagonistic to the efficient action of the douche, for with the mucous membrane creased into numerous folds, the douche fluid could never reach their interstices, and half the effect was consequently lost. On the other hand, if sufficient lavage fluid was left in the cavity of the stomach to distend it, there was no room left for the douche fluid.

In order that the intragastric douche may be effective, it is absolutely necessary that the stomach be clean, empty, and partially distended. It was always possible under the old form of operating to clean and empty the stomach by the lavage tube; also, by removing the funnel and attaching a double rubber bulb, to inflate it. Having done this, it was necessary to remove the lavage apparatus and insert the douche tube. By the time this had been accomplished, however, the air had probably escaped either by the pyloric or cardiac orifices and the walls were again relaxed. Even though the air did remain in the stomach long enough to insure a proper action on the part of the douche, its very presence interfered with the operation, for, being gradually displaced by the douche fluid, the organ became distended and the operation had to be stopped before a proper effect could be secured.

In the great majority of cases, however, all these precautions were never taken. The douche tube was simply passed, the openings of the tube became plugged with mucus, the stomach itself was unclean and relaxed, and the whole operation proved a failure; hence the intragastric douche, while still mentioned in all the books as a therapeutic measure in certain forms of chronic gastric diseases, has generally been abandoned as too complicated and ineffective.

Intragastric douching must of all things be practical and simple. It has been my object in the construction of this instrument to secure these two elements of success. The steps in the operation are the following: The primary tube (*A*) is passed and the stomach cleansed by lavage; after removing the funnel attachment the secondary douche tube (*D*) is passed through stopcock *B*, the lumen of which is securely closed by the tubular rubber stopper (*G*). Air is now forced into the stomach through the smaller stopcock (*C*) until a moderate degree of distention is secured. This done, the process of douching begins by means of the Davidson syringe. The force of the douche can be regulated by the pressure employed. As the air in the stomach becomes displaced by the douche fluid, the former can be allowed to escape through the smaller stopcock. In this way all overdistention is avoided, and the pressure in the stomach remains practically stationary.

The whole operation can be repeated if necessary by removing the douche tube, siphoning off the fluid, and beginning over again. This is accomplished without inconvenience to the patient, for the primary tube remains in place and the douche tube never comes into contact with the patient. The whole process consists then of lavage, distention, and douching, all of which are carried out without more annoyance to the patient than an ordinary operation of lavage.

The three principal effects sought for by intragastric douching are cleansing, medicinal, and dynamical. These names indicate in part the classes of cases to which douching may be applied. I refer especially to all those chronic gastric diseases where lavage has hitherto been employed. This would include cases of atony, with or without dilatation; cases of excessive fermentation; cases of chronic gastritis with excessive secretion of mucus; in fact, all disorders in which the stomach should be thoroughly emptied of its contents and cleansed.

It has been my experience that in many of these cases lavage has failed in its purpose, and naturally so, because it is manifestly impossible to cleanse more than the lower segment of the stomach by this operation. It may be possible to remove the residue of food and any excessive mucus found in the lower segment, but the folds of the upper segment never come into contact with the cleansing fluid. It is exactly in these folds of mucous membrane, however, that the organisms necessary to fermentation lurk. To fill the stomach sufficiently with lavage fluid to distend these folds is not only impossible, but deleterious in its effect in cases of atony and dilatation, on account of the very volume of the fluid necessarily employed; consequently, lavage often fails in one of its most important objects—namely, the thorough disinfection of the stomach.

Hence the advantage of the douche applied in this way as an adjunct to lavage is clear. The stomach is first emptied of its contents by the ordinary method, the douche tube is passed, the organ partially distended with air, and the surface of the mucous membrane thoroughly douched with whatever disinfecting solution may be deemed advisable. The quantity of this solution need not be large—not more, in fact, than half a pint. Should even this quantity be deemed objectionable, it can always be removed by means of the primary tube after the operation of douching has been completed.

For medicinal purposes the douche can be employed in those cases where there exists a loss of secreting power on the part of the stomach. The flooding of the cavity of the stomach in order to stimulate secretion is well known. For this purpose solutions of dilute hydrochloric acid, bicarbonate of sodium, common salt, and bitter tinctures have been employed, but the work has never passed the experimental stage.

How much more effective would an energetic douche of these solutions be in a stomach whose walls have been partially distended, so that the fluid can come into intimate contact with the surface of the mucous membrane! There would be in addition a direct dynamical effect on the muscular structures of the organ. I need not call attention to the commonest form of chronic gastric diseases, the so-called "weak stomach," a combination of deficiency in secretion, loss of tone of the muscular structures, stasis of food, and the consequent fermentation.

There can be no danger from either the volume of the liquid or from toxic effects, for any excess of fluid can easily be withdrawn through the primary tube. As a stimulant to muscular activity the intragastric douche should give good results. There is no direct dynamical effect from the operation of lavage. It acts indirectly upon the muscular structures of the stomach by relieving them of their burden. Add to this the direct stimulating quality of an energetic intragastric douche, after the bulk of the gastric contents has been removed, and the effect will be doubled.

It is internal hydrotherapy, so to speak. Here a trial of fluids of high or low temperature would be in place. The quantity of the douche need be small, while the time and force employed are absolutely under the control of the operator. There can be no danger of overdistention, so that it can be safely employed in all disorders emanating from a loss of muscular tone of the stomach.

Heretofore the intragastric douche has been employed largely in neurotic affections of the stomach. I refer especially to hyperæsthesia of the gastric mucous membrane resulting in a line of nervous phenomena, such as gastralgia, irritability, and nausea. Owing to the construction of the old form of douche, the effect was perhaps largely a moral one, for it was never possible to predict a certain action on the part of the douche or that the douche fluid came into intimate contact with the surface of the mucous membrane. These doubts are eliminated in the new form of instrument. The primary tube is passed, the stomach is slightly inflated, and the douching with any sedative solution takes place.

The remaining portion of the instrument consists of an intragastric electrode. Its construction corresponds in the main to that of the lamp and douche, and it is introduced into the stomach through the primary tube.

The electrode consists of the secondary tube (*D*), to the lower end of which is cemented a platinum electrode incased in a perforated hard-rubber capsule. The external end of the tube is armed with a metallic tube, the tubular rubber stopper, and the clamp attachment (*G*). Here also the stomach can be thoroughly prepared for the action of the current by lavage through the primary tube.

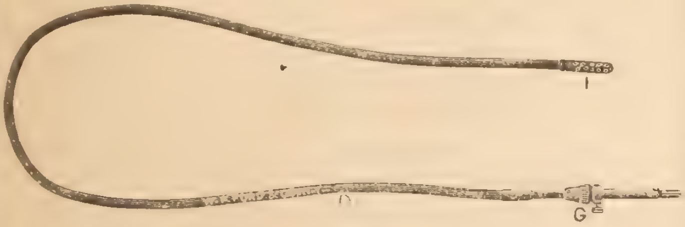

FIG. 4.

The whole instrument is simple and clean. The external or primary tube can be cleansed and disinfected as easily as any ordinary stomach tube; the double hard-rubber stopcock is detachable and can be rendered thoroughly aseptic. No gastric contents can collect in any portion of this tube. The secondary tubes containing the various attachments for lighting, douching, etc., are sealed so that the gastric contents do not reach their interior; their exterior surfaces can be thoroughly cleansed. The construction of the various parts is simple, so that they can be repaired quickly and without great expense.

There is no more danger attendant upon the use of this instrument than that attached to the ordinary lavage apparatus, and no more skill is required for its manipulation. It calls for no more toleration on the part of the patient than the usual form of gastric tube, and for thorough examinations in obscure cases it saves the patient much material discomfort, as only one tube need be passed. A little education on the part of the patient is required for all gastric examinations, but, after one or two test meals have been extracted for the determination of the secretory functions of the stomach, the patient in the majority of cases is prepared for the physical examination.

The principles involved in the application of the various parts of this combination of instruments are well known and have been in use for a long while. It has simply been my object to render them more accessible and thorough, and more possible of application; further, the instrument is intended to save time to the examiner and discomfort to the patient.

Before closing, I must extend my thanks to Mr. Eugene W. Caldwell for his ingenuity and suggestions in overcoming the mechanical difficulties of construction. I must also express my appreciation of the work of my assistant, Dr. Lewis N. Foote, for his attention to the work of testing the various appliances at the Vanderbilt Clinic.

SOME PRACTICAL NOTES UPON DISEASES OF THE RECTUM.*

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RECENTLY a physician from the West had occasion to consult me regarding some trouble about his rectum. Upon his second visit he remarked that he had frequently requested patients to mount his examining table for the purpose of making a rectal examination, but that it was not until he was obliged to go through the personal ordeal in my office that he fully realized the reason for the hesitancy that most patients exhibit in assenting to and going through an examination of this portion of the body. These remarks, coming from a physician, served to emphasize to me the necessity for the employment of the utmost tact and gentleness in dealing with all patients, especially with those afflicted with disease of the rectum and anus.

All persons suffering from diseases of the rectum are especially prone to be depressed and are more or less nervous. This fact, combined with the natural restraint experienced in paying a first visit to a physician, should be realized by the examiner, and in order to aid such persons to recover their composure it is best to encourage them to give the history of the disease in all its details. While this consumes time, the more important object is accomplished of securing the cooperation of the patient in the subsequent steps of the investigation —to wit, the digital exploration of the bowel, without which a positive diagnosis can never be made. These remarks are especially applicable to the treatment of females. Assent to a vaginal examination is much more readily obtained than is the consent to inspect the seat of rectal trouble.

While abruptness or undue haste on the part of the medical examiner will usually frustrate all attempts to gain the consent of a female patient to undergo an examination, it is a fact that, no matter how gentle and forbearing the examiner be, some patients will remain obstinate and resist all efforts pertaining to a local examination. The following instance is a case in point: Several years ago I was consulted by an elderly woman, who gave a history pointing toward some rectal trouble, which she stated had existed for a considerable length of time. She also remarked that she was certain that all that ailed her was "piles." I finally suggested that a local examination was necessary, whereupon she became quite indignant and informed me that she had consulted as many as fifteen doctors about her condition, and that not one of them had been guilty of requesting, much less insisting upon, an examination. As I failed to convince her of the error of her way, she left my office in a rather unenviable frame of mind. The verification of her statement regarding the number of physicians she had seen was not possible or even necessary, but I have no doubt that she was correct in stating that she had been under treatment for a considerable length of time for some rectal lesion, which was treated by more than one physician without any attempt being made to visually inspect the parts involved, much less to explore them with the finger.

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* Read at a meeting of the Medico-legal Society of Philadelphia, October 31, 1899.

The following remarks of Dr. Charles B. Kelsey's * are so in accord with my own views, as well as borne out by experience, that I am sure they will bear repetition here in connection with the history of the case just narrated: "The symptomatology alone may be of great value in the diagnosis of rectal disease; it is almost never sufficient in itself for a diagnosis. There is a train of symptoms common to almost all diseases of this part, and which infallibly point to trouble of some kind, but they do not tell what that trouble is. The pain of a fissure is sometimes almost diagnostic, but it does not tell what troubles may be associated with the fissure; and so it is in every other rectal affection. For this reason the practitioner who attempts to treat a case of disease of the rectum without first making a direct examination, both visually and digitally, uselessly risks his reputation as a diagnostician; and in my own practice I am guided by the simple rule that patients, male or female, who have not yet come to the point which makes them willing to submit to an examination have not yet reached a point which admits of treatment. An examination, especially in women, is sometimes, though not often, difficult to obtain, and the dread of it keeps many sufferers from seeking relief; but still the rule I have laid down is the only safe one, and the surgeon who allows himself to be persuaded into 'recommending something for piles' will sooner or later have a mistake in diagnosis laid to his charge, nor will the fact that he was moved by consideration of the patient's sensibilities save him from blame."

I shall now invite your attention somewhat briefly to a consideration of some of the various forms of rectal diseases.

Congenital malformations of the anus and the rectum, while by no means a common occurrence, occur often enough (one case in about eleven thousand births) to justify attention being called to the necessity for every newborn child being carefully examined at the time of its birth. If this step were made a routine practice, subsequent mortification would be avoided in having the nurse or some member of the family call the doctor's attention to the fact that the child had not had a movement of the bowels since its birth, and that they were afraid that something was wrong with the child's parts.

Proctitis (inflammation of the rectum, involving one or all of the four coats of the bowel) and *periproctitis* (inflammatory changes occurring either primarily in the loose areolar tissue on the outside of the rectum or as a secondary process due to an extension of a proctitis) are mentioned because of their marked tendency to lead to suppuration, and suppuration in or around the rectum is often followed by a fistula. I should like to dwell upon this subject did time permit; let it suffice for me to urge upon those attempting to deal with suppurative processes in the neighborhood of the rectum to avoid poultices and to lay the affected parts *freely open* as soon as the formation of an abscess is recognized, even before pus occurs. The mistake usually made when the knife is employed is that of making the incisions or incision too small.

In dealing with abscesses around the rectum it is also essential to have free drainage, and that the incision should lay open most freely all tissue that has even the semblance of being indurated. This is the only secret, if such it may be called, in the successful treatment of abscesses in this locality and in the prevention of a fistula.

In all cases of *fistula in ano* it is to be remembered that the sinus may be the result of a stricture of the rectum, and under such circumstances the usual treatment directed for the relief of a fistula will not suffice for a cure. A digital examination of the bowel will, as a rule, prevent such an error being made.

To the average practitioner the internal variety of fistula is the most difficult to recognize, as it has no external opening. It is also the most treacherous form to deal with unless promptly diagnosticated. It frequently arises from a spiculum of bone, a sliver of wood, or a fish bone being swallowed and then lodging in the constricted part of the anus. More than once patients have consulted me complaining of the sudden onset of pain at the lower portion of the bowel, and upon making a digital examination I have found such foreign bodies. The prompt removal of the offending substance will prevent the formation of a fistula.

In dealing with the subject of fistula it may be wise to mention that the internal opening in most cases is to be found between the two sphincter muscles, and not, as most practitioners seek it, higher in the rectum. A very simple means of ascertaining the location of the internal orifice of a fistula is by the injection of some fluid, such as peroxide of hydrogen, milk, a solution of creolin, or one of permanganate of potassium. These substances may be injected into the external opening (it is only in cases in which an external opening exists that this method is applicable), and if an internal communication with the bowel exists the fluid used will be seen oozing out of the anus or else found within the rectum.

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* *Diseases of the Rectum and Anus; their Pathology, Diagnosis, and Treatment*, fourth edition, New York, 1893, pp. 41, 42.

It should always be borne in mind that a fistula may not be connected with the bowel, but with the genito-urinary tract. The escape of urine through the sinus will settle the question.

The question is frequently asked as to whether it is prudent to operate upon a patient suffering from pulmonary phthisis. If the lung trouble is active, as in cases of so-called galloping consumption, my answer would be in the negative; otherwise, operate.

It is not essential in all cases of fistulæ to etherize the patient for the operative procedures required to effect healing of the tract, nor is it necessary to put the patient to bed before a cure can be effected. Simple cases of fistulæ, or cases in which a general anæsthetic is contraindicated, may have the parts rendered as aseptic as circumstances will permit, and then, under the influence of a local anæsthetic, such as cocaine or eucaine, the tract may be painlessly opened and a cure result; the patient not being confined to bed, but advised to rest as much as possible until the wound has healed. Personally, I have employed only cocaine for this purpose, and that drug I use in the strength of a two- to a four-per-cent. solution—never stronger.

The diagnosis of *ulceration of the rectum and of the sigmoid flexure* must of necessity be attended with more or less difficulty, but the presence of an ulcer may be suspected when the symptoms of intestinal inflammation persist for some time, and especially when they are accompanied by hæmorrhage, diarrhœa, and more or less mucoid discharge. Frequently, cases diagnosticated as dysenteric attacks are in reality due to the presence of an unrecognized ulcer, either of the rectum or of the sigmoid flexure.

Irritable ulcer or fissure of the anus is a disease entailing such extreme misery to the patient, and its symptomatology is so characteristic, that it is often a matter of surprise to me to see patients so afflicted go so long without the nature of the affection being recognized by the medical attendant. In all cases presenting a history of pain, which is paroxysmal in character and always associated with the act of defæcation, though not necessarily accompanying the actual passage of the motion, but which comes on shortly afterward with great intensity, and is succeeded by a dull, gnawing, and an extremely distressing sensation, situated immediately within the anus, the presence of a fissure should at least be suspected, and a careful examination of the patient's anus and rectum should be made. The pain alluded to frequently lasts for many hours and completely incapacitates the sufferer from following any occupation.

Many cases of fissure of the bowel are treated by the family physician with an opiate in order to relieve the distressing suffering. Nothing could be employed that would do more harm than this much-abused drug. The best remedy to use is iodoform, preferably in the form of a ten-grain suppository, of which one should be carefully inserted into the rectum half an hour before an expected movement of the bowels and another immediately after the passage has occurred.

Stricture of the rectum, malignant or otherwise, may exist for a long time without even the patient being conscious of its presence or of suspecting that there is anything wrong with the bowel. The symptom so commonly considered as being pathognomonic of the presence of stricture—namely, the narrow or tapelike shape of the fæces—may be associated with a fissure, or with any other lesion of the rectum which occasions an hypertrophy of the sphincter muscles.

Fistulæ and hæmorrhoids, conjointly or singly, often coexist with a stricture of the rectum. Under such circumstances should the medical adviser not digitally examine the rectum, but conclude from inspection of the parts only that the patient has hæmorrhoids or a fistula, or both, and so inform the person, he places himself in a well-merited position of being severely censured when the true condition is recognized. I have personal knowledge of a patient who was operated upon for a fistula and hæmorrhoids by a very reputable surgeon, and in the course of time, as the case did not progress favorably, a consultation was held, when the true condition of affairs was ascertained by finding a malignant stricture of the rectum within easy reach of a digital exploration of the parts.

Syphilitic conditions of the anus, and more especially of the rectum, are rather rare, at least in this country. The possibility of this trouble being present should not be overlooked in dealing with affections in this locality, especially when the patient is a female, as in this sex the disease may be contracted as a result of self-inoculation from similar disease in the vagina or about the vulva, the discharge trickling down over the perinæum, and so infecting any excoriations of the part that may be present; or it is possible that the accidental contact of the penis during coition may be the means of conveying the infection.*

Mucous patches about the anus are of comparatively frequent occurrence, and so are the so-called condylomatous excrescences. In congenital syphilis the only common manifestation at the anus is the mucous patch, or, what is more frequent, numerous fissurelike ulcers.

Prolapsus recti in children is often occasioned by mothers attempting to establish regularity of the bowels by insisting upon the child sitting and straining on a commode for half an hour at a time. Phimosis, adherent prepuce, and stone in the bladder are often the cause of a prolapse of the bowel. The presence of seat worms may also occasion this malady. More than once I have seen a polypoid growth in a child which had been treated for a simple prolapse. The latter condition was only relieved by the removal of the polypus.

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* Charles B. Ball, F. R. C. S. I. *The Rectum and Anus; their Diseases and Treatment.* Philadelphia, 1887, p. 179.

Hæmorrhoids, though the most frequent of all rectal diseases, will be alluded to only briefly, as justice can not be done otherwise to the scope of this article in the time allotted. The division of hæmorrhoids into external and internal is generally known and accepted by the profession. I have no doubt that it is also known that in reality, as well as in name, the one belongs to the exterior of the rectum and the other to within the bowel. In nearly all cases patients endeavor to reduce both varieties of piles by pushing them into the rectum, in this manner aggravating the *external* form and increasing their sufferings. I am sorry to add that some of these patients have acted in this manner under advice from medical men. Had these physicians taken the trouble to examine their patients I am sure that no such advice would have been given.

All cases of hæmorrhoids do not require operative interference. In the formative stage of hæmorrhoids frequent ablutions of the part with cold water will allay, if not abort, inflammatory tendencies of the veins, which otherwise finally lead to piles. On the other hand, in those cases which demand operative measures, I am not in sympathy with the advice so often given to postpone operation until the acute inflammation has subsided. It is when the patient is suffering that consent will be most readily obtained, and it is owing to such advice that these patients finally drift into the hands of the quacks.

External hæmorrhoids, when inflamed or otherwise, can always be painlessly removed under cocaine anæsthesia, and it is at the time that they are inflamed that the operation does the most good, for it not only radically removes the trouble, but it quickly alleviates the intense suffering which their presence otherwise occasions.

Hæmorrhoids are sometimes a symptom of some more remote and more important visceral disease, such, for instance, as cirrhosis of the liver, uterine displacements, etc. Under such circumstances, the surgeon who looks at these cases with the eye of a specialist and directs his treatment solely to the rectum will sooner or later come to grief as well as run the risk of doing his patient irreparable harm.

Benign neoplasms of the rectum I mention because of the difficulty sometimes experienced in ascertaining the presence of a polypoid growth. If the tumor is round, has the usual velvety feel of the normal mucous membrane of the bowel, and is pedunculated, the average practitioner will fail to find it, because, in his examination, the polypus is pushed away from the examining finger. The correct way of ascertaining the presence of such a growth is to carry the finger well up the bowel away from the side to be explored, and then, by steady pressure, to sweep the finger downward, continuing this procedure all around the bowel. In this manner, if a polypus is present and within the reach of the finger, it will be caught between the finger and the wall of the rectum.

Finally, a brief word as to one of the most frequent causes, as well as the prime cause, of all rectal diseases—constipation. The modern way of living in crowded cities and in overheater and poorly lighted and illy ventilated houses, taken in conjunction with the adulterated and artificially prepared food stuffs eaten, together with the hurry with which the average man bolts his food and the lack of time assigned for not taking any or but little outdoor exercise, are among the principal factors in producing this condition. Even infants are not exempt. I think that you will all agree that constipation is on the increase, and that the percentage of increase is by no means small.

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DIPHTHERIA:
REMARKS ON CLINICAL DIAGNOSIS AND TREATMENT.

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The object of this paper is to emphasize the writer's observations on the essential *early clinical* signs of diphtheria as distinguished from other similar affections and to detail the method of treatment employed by him with almost uninterrupted success. Volumes are being filled with dissenting views on the value of bacteriology in the diagnosis and on that of antitoxine in the treatment of diphtheria; too little space is devoted to the clinical experience with this disease. The discussion of this subject from a clinical point of view may, therefore, commend itself to the profession.

I. Diagnosis. 1. *Pharyngeal Diphtheria.* — (*a*) *Diphtheritic Membrane:* In pharyngeal diphtheria the pseudo-membrane appears as a small, uneven, grayish-white, slightly elevated patch upon the *inner* tonsillar or faucial surfaces of the throat. The deposit augments by quick spreading, reaching within a few hours the posterior wall of the pharynx, and, in severe cases, the Eustachian tubes, nares, and, very rarely, the conjunctiva. Anteriorly the pseudo-membrane attacks the palatal arch and uvula. It may spread downward into the larynx or alimentary canal. The surrounding uncovered areas are grayish in color, due to overcrowding of leucocytes, nuclei, and mucus beneath. The tonsils are, as a rule, but slightly enlarged. The deposit, if removed, leaves a raw, bleeding surface and reforms rapidly.

In follicular amygdalitis the deposit begins as one of more white, small pellicles upon the middle or anterior portion of the tonsil. The pellicles, at first distinctly isolated, gradually coalesce, forming elevated patches. They are limited to the tonsils, may easily be removed, and reform slowly. The tonsil, usually one, is moderately enlarged, sometimes previous to the appearance of the deposit.

In parenchymatous amygdalitis the tonsil is greatly enlarged, often displacing the uvula. It is bluish in color and doughy in consistence. The deposit, at first white, soon becomes yellowish, resembling the "point" of an abscess.

In herpetic amygdalitis the deposit begins with minute vesicles, which have a tendency to burst and leave superficial ulcers. This form of amygdalitis is at times accompanied by stomatitis. Otherwise it resembles follicular amygdalitis.

In necrotic amygdalitis the tonsils are moderately enlarged and the deposit lies deeply imbedded within the structure of the mucous membrane. The deposit, if removed, leaves behind a deep ulcer—sometimes gangrenous—surrounded by a distinct red zone; it spreads, as a rule, from one tonsil to the other by way of the anterior pillars and palatal arch, frequently attacking also the uvula.

(*b*) *Submaxillary Glands:* The submaxillary glands in diphtheria are greatly involved. They are large and hard, assuming the shape of a large walnut, and can be easily seen bulging out. They are very painful to the touch.

In follicular and herpetic amygdalitis the glands are moderately enlarged, softer in consistence and less painful to the touch than in diphtheria.

In parenchymatous amygdalitis the glands are moderately enlarged and diffused, the swelling often extending as high as the ear.

In necrotic amygdalitis the glands differ but slightly from those of diphtheria and can not be relied on as a differential point of diagnosis.

(*c*) *Early Constitutional Symptoms:* Excepting the presence of albumin in diphtheritic urine, none of the early constitutional symptoms are characteristic of diphtheria. Indeed, they are frequently less pronounced in diphtheria than in the other throat affections, unless the former is complicated by streptococcic infection. The temperature in diphtheria is, as a rule, moderate, about 101° to 103° F., and continuous. The pulse is feeble and quick and soon gives signs of exhaustion. The face, as a rule, is pale. Swallowing is difficult, but not very painful, due to partial degeneration of the muscles of deglutition and their nerve supply. Albuminuria is invariably present from the earliest beginning of the disease and is of great significance in the differential diagnosis.

In the various forms of amygdalitis the temperature is quite high, especially toward evening, often reaching 105° F. The face is flushed. Deglutition is painful and difficult as a direct result of soreness and sensitiveness of the tonsils. Albuminuria is usually absent.

The diagnosis of scarlatinal angina is at times very difficult, and in our experience we have succeeded well by judging it from the severity of the attack. We have thus been in the habit of pronouncing every case resembling amygdalitis as scarlatinal angina, while some cases present the characteristics of diphtheria, especially when the spreading of the pseudo-membrane begins a few days after the development of the rash. We must refrain, however, from considering this rule as the best one.

2. *Laryngeal Diphtheria.*—Laryngeal diphtheria can only be mistaken for non-diphtheritic membranous laryngitis, also known as croup, which is on the other hand entirely distinct from spasmodic laryngitis, a mild catarrhal inflammation of the mucous membrane of the pharynx or larynx without the formation of a pseudo-membrane. In speaking of non-diphtheritic membranous laryngitis I am fully conscious of the manifold denials made by advanced clinicians as to the existence of such a non-diphtheritic disease; here again I am merely guided by the observations made in my own practice without attempting either to confirm or dispute the views of others, and, while the exact distinction is associated with extraordinary difficulty, I believe I have been successful in making a correct diagnosis with the aid of the following differential points:

MEMBRANOUS DIPHTHERITIC LARYNGITIS.	MEMBRANOUS NON-DIPHTHERITIC LARYNGITIS.
Distinctly contagious, giving also a history of contagion.	Not contagious.
Early enlargement of the submaxillary glands	Submaxillary glands, as a rule, not involved.
Diphtheritic patches are found, as a rule, on the fauces and posterior nares.	The fauces may be covered with a mucous exudation, which can easily be wiped off.
Early treatment, including intubation, neither aborts the disease nor always prevents a fatal issue.	As a rule it does.
Albuminuria usually present......	Absent.

I may also mention that pharyngeal or laryngeal syphilis in childhood, if accompanied by an acute attack of amygdalitis, is apt to be mistaken for diphtheria, and great skill and caution are often required to eliminate the latter affection. In early diagnosis the history of the case and the usual presence of syphilitic manifestations on other portions of the body are the only reliable differential signs.

II. TREATMENT. 1. *Pharyngeal Diphtheria.*—Bearing in mind the facts that diphtheria is primarily a local disease and that infection of the whole system takes place rapidly through absorption of the diphtheria toxine formed at the originally infected spot; furthermore, that a fatal issue of the disease is due either to septic poisoning or, more rarely, to obstruction of the air-passages, the following procedure commends itself:

(*a*) Endeavor to subdue the hyperæmia and excessive exudation in the throat in order to avoid respiratory obstruction.

(*b*) Destroy at the earliest moment the diphtheria bacilli at their point of entrance in order to prevent the excessive formation and immediate absorption of the diphtheria toxine.

(*c*) Increase the power of resistance of the patient and administer such remedies as will combat or neutralize the toxic substances, thus preventing their dissemination in the internal organs of the body.

(*d*) Promote the action of the lymphatic system, kidneys, and bowels in order to rapidly eliminate the poisonous products.

Under the first and second headings must be classed all germicides, care being exercised that they do not act simultaneously as active escharotics. We have been very fortunate with the following two combinations:

No. 1.

℞ Glycerit. papoid. .... ʒiv;
Acid. carbolic., }
Pulv. camphor., } āā .... gr. viij;
Alcohol, q. s. ad solv.
Glycerini ....q. s. ad f℥ij.

This is applied to the throat by means of a cotton swab every two hours—changing the swab each time—diminishing the frequency of applications with the abatement of the severity of the symptoms.

No. 2.

℞ Hydrogen. peroxid. .... ʒiv;
Sodii borat. .... ʒij;
Glycerini .... f℥ij;
Aquæ rosæ. ....q. s. ad f℥iv.

One tablespoonful to be instilled into the nose every two hours in the presence of diphtheritic membranes in the nares, and every four hours in their absence.

The third and fourth indications must be met with plenty of good nourishment, hæmatics, nerve and cardiac stimulants, diuretics and laxatives. I may state here that in administering stimulants I never wait until cardiac debility sets in, but employ mild stimulation from the earliest beginning of the disease, thus increasing the power of resistance of the patient and preventing the micro-organisms from impregnating the internal organs. Feeding of little patients is as difficult as it is important. But I have frequently been surprised to see how bravely a child would battle through a severe attack of an acute disease without a mouthful of food for days. The fact that there is, as a rule, complete anorexia present tends to indicate that it is probably a provision of Nature to starve the micro-organisms lodged in the alimentary canal. However this may be, all efforts should be made to nourish the patient with milk, beef tea, "prepared food," etc., and in case the same can not be administered by the mouth, nutrient enemata should be resorted to.

Of internal medicinal agents I am in the habit of prescribing:

No. 3.

℞ Tinct. ferri chlorid., }
Tinct. myrrhæ, } āā............ ʒij;
Glycerini. .... ℥ij;
Syr. zingiberis. ....q. s. ad f℥iij.

One teaspoonful to be given every three hours to a child three years old.

No. 4.

℞ Strychninæ sulph. .... gr. ¼;
Liquor. ferri et ammon. acet. ...... f℥iij.

One teaspoonful to be given every six hours to a child three years old.

Any untoward symptoms arising must be combated accordingly. I have rarely had occasion to use antipyretics, and I have found that a small dose of any of the stimulating coal-tar products always answered well to reduce the temperature and relieve pain. A laxative administered once a day is useful. In marked irritability of the child, sodium bromide, combined at times with a small dose of chloral, is very serviceable.

2. *Laryngeal Diphtheria.*—This, the most dreaded form of diphtheria, is, as a rule, not accessible to local treatment. If any diphtheritic deposit is visible along the fauces, the first mixture may advantageously be applied. I always order cleansing of the nose with the second solution. In severe cases intubation must be resorted to early, and in this way late tracheotomy can be dispensed with. The internal remedies enumerated above are certainly of undoubted benefit, and I believe that severe attacks of diphtheria can be averted by their administration. When intubation is performed, and the administration of liquids by the mouth must be avoided, strychnine should be given hypodermically. For the reduction of swelling of the submaxillary glands, iodine ointment with ten per cent. of ichthyol is an excellent local remedy. Before the discovery of antitoxine I had been very successful with the method of treatment outlined under pharyngeal diphtheria, together with inhalations of antiseptic vapors. Influenced by the numerous favorable opinions on antitoxine, I have recently begun to administer the serum in every case of laryngeal diphtheria and can report good results. I am not prepared, however, to state how much of the success can be attributed to the antitoxine and how much of it to the local and internal remedies employed in connection with it.

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THE SURGICAL TREATMENT OF PHTHISIS.

By WALTER C. WOOD, M. D.

On first consideration, the phrase the surgical treatment of phthisis seems an absurd proposition, yet on investigation of the recent literature it is found to merit serious consideration. The work already done rests on well-established surgical principles and demands the respect of the most conservative among us. It is but a part of the general subject of the surgery of the lung, which is now attracting attention, as did the surgery of the abdomen several years ago, and we hope it will bring equally beneficent results; yet it is no new thing.

Drainage of a pulmonary cavity was probably first successfully done by Baglions, in 1710, but we know more definitely that in 1844, Hastings, of England, and Storck, of Germany, incised and inserted drainage tubes in apex cavities of tubercular lungs and into pulmonary abscesses. In 1873 Mosler tapped such cavities and injected iodine. At the Congress for the Study of Tuberculosis, held at Paris in 1891, Porrier and Jounosco reported twenty-nine cases of incision and drainage of apex cavities, with four cases considered cured, fifteen improved, nine deaths, and one case not traced. In 1892 Tuffier, of Paris, reported a case of resection of a right apex for tuberculosis, and the patient was known to be alive and free from phthisis two years afterward. The last procedure that I am acquainted with is that proposed by Dr. J. B. Murphy, of Chicago, at Denver in June, 1898, viz., the defunctionization of the lung by the introduction of nitrogen gas into the pleura, thus causing compression.

There are, therefore, four plans to be considered under the subject of the surgical treatment of phthisis: First, aspiration of cavities and direct medication; second, pneumonotomy, or incision and drainage of cavities; third, pneumonectomy, or excision of a tuberculous focus, and fourth, obliteration of a cavity by causing collapse of the lung.

I shall briefly give the indications for each plan, with those points of technique already established, and the present status of each procedure as I understand it.

Aspiration.—The treatment of all septic cavities in all parts of the body by aspiration and medication has been a disappointment as a rule. Even the permanent retention of a trocar for drainage has not been adequate, and disinfection by antiseptics, when not supplemented by drainage of a most radical type, usually fails. Consequently, we are not surprised to learn that this method, when applied to pulmonary cavities, is unsatisfactory. Mechanically it is easy and the practice safe enough at the moment, so far as the trocar is concerned, but it is drainage that does not drain, and the improvement from the medication is so slight as to condemn the method.

Pneumonotomy.—This method of treating a tuberculous cavity comes to our attention with a certain prestige, for it is reasonably successful in cases of simple abscess, in gangrene, and in bronchiectatic cavities. In abscess cases, from fifty to seventy per cent. of cures are alleged. In patients with gangrene of the lung operated under local skin anæsthesia, there is a list of ninety-six cases with fifty-four complete cures and three recoveries with fistula. Attempts to drain a dilated bronchial cavity are less successful as regards ultimate results. In phthisis cases the operation is indicated only when the general tuberculous involvement of lung tissue is at the minimum, and the patient is suffering from the secondary septic symptoms of an easily recognized cavity. When relieved of the sepsis, it is hoped that the tuberculous involvement will reach a natural cure. In practice it is found that there is a prompt relief of the fever, the profuse expectoration, and the cough, and, while in a few cases complete cure follows, the majority of patients at length surrender to the tuberculous infection.

The steps of a pneumonotomy are given as follows: A subperiosteal resection of a rib, a transverse incision of the parietal pleura. If the lung is adherent, an incision is promptly made along the line of an aspirating needle which has located the cavity. If the lung is not adherent, there is some difference of opinion concerning the treatment of the pleural cavity. Sonnenberg would suture the parietal and visceral pleural layers and immediately incise the lung. Tuffier would scarify the opposing layers, apply chloride of zinc, place a few retaining sutures, pack with iodoform gauze, and wait for several days for adhesions before incising the lung. Tait, Abrahams, and others assert that the presence or absence of adhesions is a matter of little importance, and advise a temporary packing off of the pleural cavity and an immediate incision of the lung. They believe that adhesions will form before the discharge infects the pleura.

The lung incision is made with the cautery if the lung tissue is soft and inflamed; but if it is hard, the knife is safe. It is agreed by all writers that irrigation is not admissible. At most the cavity should be sponged out. It is usually stated that an iodoform-gauze drain is better than a tube. Tuffier uses a tube. Fowler, in an article on intrathoracic tuberculosis, calls attention to the fact that the lung is not sensitive, and no anæsthesia is required after the resection of the rib. This is important if one operates in two stages when adhesions are absent. Care must be taken on the operating table that the sound lung is at a higher level than the cavity, otherwise the manipulations may force the cavity contents into the main bronchi with disastrous results.

Pneumonectomy, or Excision of a Tuberculous Focus.—While part or all of a lung has frequently been removed from the lower animals with complete success, when applied to man it too often fails. For traumatism and for tumor it is usually fatal. A small portion of a tuberculous lung has several times been removed with a cautery, and the patient has lived only to suffer from other foci. If several ribs are resected and with the pleura attached are turned back, so that there is plenty of room to work carefully, it is probable that better results can be obtained in various lesions; but as a radical cure for phthisis it is surely, at present, not a legitimate procedure.

Obliteration of a Cavity by causing Collapse of the Lung.—This reduces the size of a cavity very materially, and forces its contents to drain through the bronchial tubes. This collapse of a lung also enforces rest and permits a natural cicatrization of a focus by connective tissue. Murphy calls attention to the frequency of a natural cure of tuberculous lesions as shown so satisfactorily in the orthopædic treatment of joints, and by the many healed lesions of the lungs as shown at autopsies. He also states that it is clinically proved that lungs allowed to collapse by pleurisy, emphysema, or operations on the chest wall, have recovered from their tuberculous lesions, and also that in cases with healed tuberculous lesions there is a contraction of the chest walls proportionate to the amount of lung tissue previously involved. A simple, safe, and satisfactory method of causing a lung to collapse is by the injection of nitrogen gas into the pleural cavity. Adhesions and much consolidation prohibit this method. Murphy injects from fifty to two hundred cubic inches of gas, or until all respiratory sounds cease. The gas remains several months without material diminution. On its withdrawal the lung expands as before. He shows a series of X-ray photographs proving these statements. Sepsis and the injection of the gas into the lungs or into the chest walls must be avoided. When the injection is made slowly there is no dyspnœa. If dyspnœa develops, the current can be promptly reversed. The gas should be kept in the cavity from three to six months.

The apparatus consists of a gas cylinder holding the nitrogen under pressure. The gas is conducted by a tube to a glass jar which at first is filled with water. This jar has a three-way stopcock connecting it with the gas cylinder, with a second glass jar which is empty and at a higher level than the first jar, and thirdly with the cannula for entering the chest. This latter connection is shut off, and enough gas admitted from the cylinder into the glass jar containing the water to force the water into the companion jar. Then, on our opening the connection with the cannula, the water returns by gravity into the first jar, thus forcing the gas into the chest. By this indirect method it is possible to measure the gas and regulate the pressure. The location of the insertion of the cannula is chosen at a distance from the lesion. In an apex case, for example, choose the fourth space in the midaxillary line. With a local anæsthetic applied, a small incision is made with a knife and the trocar and cannula are inserted to, but not through, the parietal pleura. The trocar is then withdrawn and the cannula pushed on into the pleural cavity, thus avoiding injury to the lung.

Patients in the early stages of the disease readily consent to this simple method, and Murphy states that there is an immediate improvement in the cough, expectoration, and fever.

He reports a few cases which are satisfactory so far as they go, but which are not sufficient, either in number or in time elapsed, to prove the practical value of his plan. It is my impression that there is merit in it, and I have been surprised not to see more reports from him or from other sources that would be conclusive regarding its utility.

MASTOIDITIS: THE IMPORTANCE OF EARLY SURGICAL TREATMENT.*

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If the busy general practitioner could review the aural literature, he would, I am sure, be surprised at the frequency of mastoiditis and its intracranial complications.

When we take into account the very high mortality of intracranial lesions, either with or without surgical interference, we at once realize the great importance of the early institution of proper measures for their relief, for in this way we shall not infrequently save a life that otherwise would be sacrificed; whereas, if "dilly-dally" methods are adopted, a very large percentage of our patients will die from either epidural abscess, lateral sinus thrombosis, cerebral or cerebellar abscess, or that most dreaded of all complications, purulent meningitis.

The importance of mastoiditis as bearing not only upon the preservation of the function of one of the organs of special sense but also upon the life of our patients make the question of what to do and when to do it worthy of our most careful consideration.

There are few diseases which the family physician is called upon to treat in which the responsibility for prompt and proper advice is so heavy as in mastoid involvement. He being usually the first professional consultant, the well-being of his patient depends upon his ability to differentiate between the number of pathological processes that might occur in this region. I saw it stated not long since that "the physician who fully realizes the dangers to which aural diseases, both acute and chronic, may lead, is more apt to give proper advice than one who is accustomed to regard them as troublesome sequelæ beneath his dignity to notice." I should like to emphasize this statement, for I have been surprised oftentimes, when patients have presented themselves for examination, to learn that no attempt had ever been made to find out the true condition of the middle ear and its accessory sinuses. I refer more particularly to the chronic otorrhœas. If in this paper I succeed in impressing upon you as family physicians the importance of this knowledge, and lay down a few short rules to aid you in dealing with this class of cases, I shall consider that it has served my purpose.

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* Read before the City Medical Society, November 14, 1899.

Mastoiditis as a primary disease rarely occurs, but usually follows one of two conditions, viz., acute and chronic suppurations of the middle ear, regardless of the ætiological factor, but is manifestly more common where the infection is of a very virulent nature—as in suppurations following scarlet fever, diphtheria, epidemic influenza, and measles—than where it is of a milder type, as in ordinary head colds.

Clinical experience teaches us that in the more virulent infections there is a very rapid destruction of the lining membrane of the middle ear, and later necrosis of the ossicular chain and bony walls. In these cases, when dealt with promptly, paracentesis of the drum, leeches, ice bag or cold coil, free catharsis, and thorough cleansing may avert a threatened mastoid involvement, but they must not be relied upon where the disease is firmly established, for nothing short of opening the mastoid cells is in my opinion justifiable. This is doubly true in cases following chronic otorrhœa. Here the life of the patient is hanging in the balance, and there is no good reason to suppose that the pus will find its way out externally; whereas, if we consider the very close proximity of these cavities to the cranial cavity, being separated by only thin bony partitions, we see that everything is in favor of an extension to the intracranial contents, and as a matter of fact we find this is true in from ninety to ninety-five per cent. of neglected cases.

The writer is aware that there are cases that sometimes end in recovery without operative interference, but the few that one sees in an ordinary experience should have very little weight in answering the question as to whether in a given case the patient will recover without radical measures. The danger is not in operating, but in waiting until the disease is beyond our control.

In acute cases the question of when to interfere surgically or how far we may go in the application of milder therapeutic measures before our patient passes the border line of danger, is often very difficult to answer. Professor Schwartz, who was the first to advocate the thorough opening of the mastoid cells and has placed the operation upon a sound basis, says that if in acute cases the pain, fever, and swelling do not subside within eight days the mastoid cells should be freely opened. This is not an invariable rule, and each case must be judged individually. In doubtful cases there is one sign made out by otoscopic examination which, if present, is regarded as indicative of pus in the mastoid cells. I refer to the sagging of the postero-superior cutaneous covering of the external auditory meatus close to the membrana tympani, which usually drags with it also the membrana flaccida. I have become so thoroughly convinced of the value and importance of this sign that I feel justified in recommending operative interference in all cases where it appears.

Gorham Bacon, in the *Medical News*, June 19, 1897, in speaking of acute inflammation, says: "The operator should not wait for œdema and redness behind the ear, as valuable time may be lost in so doing. Bulging out of Shrapnell's membrane, with drooping of the posterior and upper cutaneous lining of the external meatus, are, in the author's opinion, absolute symptoms of mastoid involvement, and he believes that in such cases the mastoid cells should always be perforated."

Dench, in his book upon *Diseases of the Ear*, p. 446, says: "I have never met with an instance in which, when this sign was present, operation upon the mastoid did not reveal the presence of pus."

There are others who advocate a more conservative plan of treatment, but they are greatly in the minority, and the tendency is toward more radical measures. From my clinical experience and the literature of the subject, I am forced to the conclusion that where there is undoubted mastoid involvement the only safety lies in early operation, before the patient passes the border line of safety into the dangerous grounds of meningeal and cerebral complications.

In answer to the question, When shall we interfere surgically? I should say, Apply that invariable rule of surgery that wherever there is pus it should be evacuated. My own observation, well borne out by the almost universal opinion of the best authorities, proves that sagging of the postero-superior canal wall is indicative of the presence of pus. If that is true, the natural deduction follows that when this condition is present it calls for surgical interference in the patient's behalf.

In mastoiditis following the chronic otorrhœas there is no ground for discussion. The only thing left for us to do is to deal with it radically and at the very earliest moment, for it is the danger signal, and if unheeded is sure to lead to disastrous results. For a physician to stand by and wait for the catastrophe of which he has been forewarned is little short of criminal negligence.

The seriousness of these cases is increased by the difficulty in the matter of adequate drainage through the tympanum and the necrosis or caries of the bony walls which is usually present. The gravity of the affection is not always commensurate with the symptoms, for it is in this particular class of cases that we sometimes find the most destructive changes taking place, changes which are threatening the very life of our patient, with few signs to guide us. For this reason it is advisable that all chronic otorrhœas should receive most careful attention and the case be dealt with radically so soon as there is any indication of mastoid infiltration or pus formation outside the tympanic cavity.

The question of whether we shall select the Schwartz, or simple, operation, as it is called, or proceed more boldly into the Stacke, or radical, operation in a given case is of little consequence, as the first step in each is the same, and the simple can be converted into the more radical if we find the conditions warrant it.

In general, however, the simple operation is usually all that is necessary in acute cases, while the radical is reserved for cases following chronic suppuration of the middle ear.

CONCLUSIONS.

1. In threatened mastoid involvement and in the mild acute cases the conservative plan of treatment should be first tried for at most a week or ten days, unless dangerous symptoms arise.

2. Operative interference should be instituted (*a*) in acute cases where there is sagging of the postero-superior canal wall; (*b*) where the infection is of a virulent nature; and (*c*) in all cases complicating chronic otorrhœas.

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HEROIN IN AFFECTIONS OF THE RESPIRATORY ORGANS.

By HENRY D. FULTON, M. D.,
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THE new medicinal agent heroin, a derivative of morphine, a favorable report of which was made by Dr. Morris Manges, of New York, in the *New York Medical Journal,* November 26, 1898, promises to be a remedy of real value and, indeed, a very important addition to our therapeutical resources, even if further study and investigation do not widen its field of usefulness beyond the clinical results so far obtained.

The use of heroin in the hands of the writer covers a period of five winter and spring months, when diseases of the respiratory organs are most common in western Pennsylvania, and the diseases studied with reference to its medicinal action comprise cases of simple bronchitis, bronchitis associated with measles, the bronchitis of *la grippe*, chronic bronchial catarrh, acute pneumonia, and phthisis. Some of the remedy was obtained in December, 1898, while the epidemic of *la grippe* was at its worst, and the effects of the agent as a cough-relieving remedy in this disease were prompt and definite; the degree of comfort afforded the patient was in marked contrast to that usually derived from the ordinary remedies. In those cases in which the patient is harassed by almost incessant cough, or by severe paroxysms occurring in the night, so greatly interfering with the rest and comfort of the subject and leading to an exhausted condition on the following day, its good effects were especially noticeable. In *la grippe* the range of its usefulness is limited apparently to the allaying of cough and it does not otherwise influence the course or duration of the disease. The remedy was exhibited in this affection, in simple and in complicated cases, with the one uniform result of securing relief from the distressing symptom of cough by lessening the troublesome bronchial irritation which usually exists. The administration of heroin in phthisis at any stage is followed by the most satisfactory results in the way of securing freedom from cough and thereby promoting rest at night.

The first case in which this remedy was tried was one of advanced pulmonary disease with laryngeal involvement. The patient, extremely emaciated and weak, suffered greatly from coughing, especially at night, and scarcely any relief had been afforded by intralaryngeal applications, inhalations, or by sleep-producing remedies.

The patient stated that he had not had a comfortable night for months. Heroin in one-sixteenth-grain doses was ordered every three hours.

The administration of the drug was begun early in the afternoon and continued every three hours until nine o'clock in the evening. The cough was greatly relieved and a comfortable night was had, the first for a long time. The patient succumbed to the disease in about two months, securing sleep at night during that period and marked relief from cough. The writer was much interested on his second visit to this patient to note the appearance of comfort instead of his former wretched expression of suffering. His extravagant words of praise for the remedy through which he had obtained such unexpected help, his surprise that he could possibly have had a night free from his usual troublesome cough, and his evident happiness and gratitude over the changed state of affairs were fully justified by the subsequent action of the drug, which was continued without appreciably increasing the dosage while he lived. In the second case the writer forwarded some heroin to a young man, a former patient, then in California on account of gradually progressing phthisis. He had been taking codeine to relieve cough, but his sleep was considerably interfered with, and he sometimes had very bad nights with the usual depression and exhaustion on the following day. After I began the use of this remedy his sleep was uniformly good and some general improvement in his condition ensued on account of his securing uninterrupted rest at night. The results were so prompt and apparent that he sent back at once for a quantity of heroin, and has continued its use since early in last January up to the present time. This patient, after seven months' use of the drug, still relies upon it to relieve his cough, and has only slightly increased the doses necessary to obtain the desired results. It does not in his case cause constipation, and has produced none of the evil effects that accompany the prolonged administration of morphine.

In two other cases of phthisis which have come under the writer's observation, both in young women far advanced in the disease, heroin in one-twelfth-grain doses, given at 3, 6, and 9 P. M. daily, controlled the cough sufficiently to permit of sleep at night, and this with unvarying certainty.

While heroin is a veritable boon to the consumptive as a palliative in cough, it has a wide range of usefulness in both acute and chronic forms of bronchitis. In a large series of these cases during the last winter, the remedy was employed with great satisfaction. In the acute bronchitis of children its employment is followed by prompt amelioration of cough and apparently moderates the severity of the attack. In chronic bronchial catarrh it seems to have a positive curative value and marked improvement has been observed in a number of long-standing cases.

In a child, six years old, subject to recurring attacks of bronchitis in cold, damp weather, and having been ill during the greater part of the winter, the use of heroin in one-thirty-second-grain doses every four hours, increased in a few days to a sixteenth grain at the same intervals, was followed by remarkable improvement in the cough, which had been paroxysmal in character and very distressing to the little patient. In measles, when the bronchial irritation is a prominent symptom, the writer has found nothing else so serviceable as heroin in suitable doses to tranquillize the persistent cough. A solution of heroin for hypodermic administration may be prepared by the addition of a small amount of acetic acid, and will be found equally efficacious as morphine and less objectionable in cases of spasmodic asthma. By a previous knowledge of the patient in most of the cases in which heroin was employed with such marked advantage, it was not difficult to estimate the share which this agent had in bringing about improvement or recovery. Maximum doses of heroin produce gastric disturbance similar to that following the exhibition of morphine, but in a lesser degree, and its desired effects can usually be obtained short of causing any derangement of the digestive functions.

DIET IN TYPHOID FEVER.*

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Possibly the most important thing to learn in dieting a typhoid patient is the proper restriction of the amount and variety of foods allowed him. The ideal treatment of typhoid now depends upon a primary evacuation of the gastro-intestinal tract and a total abstinence from all food for five to six days in order to keep the alimentary canal in as aseptic a condition as possible, and to furnish no pabulum for the development of the typhoid bacillus. It has been demonstrated by the public performances of Tanner and other professional fasters that the healthy human being can subsist upon water alone for at least forty days, and the diet in a condition like that of typhoid fever, in which there is for a period at least a constant elevation of temperature and consequent loss of water by the tissues, should be calculated to supply this waste. Consequently, the most important food in typhoid is water, and it should be administered at regular intervals during the waking hours, without waiting for the patient to call for it. Especially during the first two weeks is this important, and the amount given is, of course, regulated by the height of the fever. As the typhoid infection is often traceable to the water supply, the water should be sterilized by boiling and subsequent cooling by placing bottles of it in the refrigerator rather than ice in the water itself. The flatness of water that has been boiled may be removed by shaking it in bottles half filled before serving, so that the air expelled from the water by boiling may be reabsorbed.

From the onset of the disease a daily rectal irrigation with a half gallon of normal saline solution will answer the purpose first of all of cleansing the lower bowel, and, from the fact that a large portion of the fluid is retained by the intestines, of furnishing not only a large quantity of water to the tissues in this way, but also a definite quantity of chloride of sodium, so necessary to the animal economy. Under circumstances in which the patient can not swallow the requisite amount of water, it may be given entirely by rectal enemata, and when administered with the fountain syringe and soft rubber catheter can be used without harm to the patient in ordinary cases.

In cases of intestinal hæmorrhage this method can, of course, not be used, and then the water must be administered interstitially, and I present here a simple portable apparatus with which such injections can be given with ease and rapidity. It consists simply of a four-ounce glass funnel, two feet of rubber tubing, and an aspirator needle. The various parts are sterilized and put together, the funnel filled with the saline solution, the liquid allowed to flow in order to expel the air from the tubes, and the needle then inserted under the skin, either in the region below and between the scapulæ or anteriorly at the sides of the right or left hypochondriac region. A pint of solution will be readily absorbed by the tissues in from fifteen to thirty minutes, and I have on several occasions given half a gallon of normal saline solution in this manner in the course of a few hours.

In extreme cases it may be necessary to administer the water intravenously, and then the same simple apparatus will answer all purposes. The needle is inserted into the median basilic vein with the aseptic precautions that are usual under such circumstances.

It is in the administration of other foods that we are apt to err upon the wrong side by giving more than is needed for the comfort and necessities of our patient. Very rarely do our typhoid patients die of starvation, and the very marked cardiac depression in this disease is not due to the loss of vital power in consequence of an insufficient amount of food. It is due to the septic fever caused by the absorption of typhoid ptomaines, often aggravated by the absorption of toxic products due to the ingestion of too much food and the decomposition of such food in the enfeebled gastro-intestinal canal. The delirium and tympanites complicating the disease may generally be ascribed to an error in this direction. The amount of food given should be in proportion to the digestive capacity of the patient as evidenced by the absence of undigested food in the stools and by the temperature, a patient with a very high fever being practically in no condition whatever to digest food.

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* Read before the Louisville Society of Medicine, September 4, 1899.

The ideal food in typhoid is buttermilk, and I have observed that patients who subsist upon it exclusively during the febrile stage of the disease get along smoothly and without complications. No special precautions seem to be necessary in its use; it should, of course, be obtained fresh each day.

Next in order then is sweet milk, and as it contains all the constituents needed to supply the tissues it fulfills all purposes. The only drawback to its continued use is the fact that many patients have a distaste for it, and attempts must then be made to present it in various palatable forms.

As the milk supply is often the cause of typhoid, some care must be used in its administration. Boiling destroys the vital principles of the milk and makes it less palatable, and should not be resorted to if other means will answer. Dr. Seibert, of New York, has demonstrated that when milk is filtered through absorbent cotton, nine tenths of the bacteria, together with all the foreign particles, are removed from it, and in the majority of cases such simple filtration should answer. If necessary, pasteurization or sterilization may be resorted to.

Milk can be rendered more digestible by mixing with an equal quantity of water and then aerating it. A half pint of milk and of water are placed in a quart bottle and shaken very thoroughly just before pouring out the quantity to be administered to the patient. This mixture can then be improved upon by the addition of a teaspoonful of the white of egg, a teaspoonful of sugar, and a pinch of salt, making a milk shake which will hold the froth and present a very appetizing appearance to the patient. By the addition of a teaspoonful of the various fruit juices, especially pineapple and cherry, this can be varied again. In cold weather the addition of a teaspoonful of clam juice to the diluted milk, salted to taste and served hot, will be acceptable. Milk mixed with an equal quantity of coffee or tea can be given twice a day and will answer a double purpose, the caffeine and theine contained in them acting as heart stimulants, a quality very desirable in the early stage of the disease. A very satisfactory method of administering milk was communicated to me by Dr. Fallis, of this city, only a short time ago. It is in the form of a peptonized ice cream, made by taking a measureful of peptogenic milk powder, adding to half a pint of milk half a pint of water and four tablespoonfuls of cream, and heating to the boiling point, according to directions accompanying the peptogenic milk powder. The mixture is then transferred to an ice-cream freezer and frozen in the usual way. A cupful of this served at regular feeding hours will prove very acceptable to most patients, especially as it bears some semblance to solid food and may be eaten with a spoon.

A teaspoonful of extract of malt, heated with half a pint of milk and then diluted with an equal quantity of water, forms another easily digestible mixture.

When milk is absolutely refused, it will be found that the patient can be sustained during the entire febrile stage of the disease upon unfermented grape juice given in wine-glass doses every three hours.

When the temperature reaches normal in the morning then an addition may be made to the diet, either by the substitution for one of the feedings of strained oyster or clam broth or by the various beef preparations. Books on diet contain a number of formulas for the preparation of beef tea; but if the patient can be trusted I allow him to chew pieces of broiled steak, instructing him not to swallow the fibre after the juice is absorbed. The tougher the steak, the more satisfaction will the patient get out of it.

At this time the patient should be allowed the use of chewing gum for a short period several times a day. The satisfaction of again using the muscles of mastication is one that only he who has been deprived of their use for some time, as in this disease, can appreciate. Liquid beef peptonoids, Moquera's beef jelly, and Valentine's meat juice will fill the indications when fresh beef can not be had conveniently.

The gradual change from the liquid to the solid diet puzzles the physician perhaps more than anything else. The difficulty will be solved if the gelatin preparations are used, gelatin with wine or pineapple juice, also the various preparations of tapioca, which is converted into a smooth, transparent jelly by a process of boiling and subsequent cooling. Diluted milk with a teaspoonful of sugar, a pinch of salt, and one or two tablespoonfuls of whisky added to it will make an excellent nightcap at this period.

Soft boiled eggs are, of course, indicated and are best prepared by heating an egg with a quart of cold water to the boiling point.

The yolk of an egg beaten up with diluted milk, with or without whisky, will lend variety to the diet. Oyster and clam broth in winter and tomato soup in summer are in order. The patient will crave bread by this time, and a palatable and safe way of giving it is in the form of bread jelly, made by covering a thick slice of homemade bread with water, allowing to stand an hour, pouring off the excess of water, adding milk, heating to the boiling point, sweetening to taste, and serving cold.

After this, of course, the various meat soups—beef, mutton, or chicken—with well-boiled rice, barley, sago, or tapioca, and finally mashed potatoes are in order;

and then, as a general thing, the patient can consume the normal diet.

In cases in which digestion is so enfeebled that the ordinary foods can not be administered, other means must be resorted to.

It may astonish many to learn that the raw yolk of an egg, salted and floated on two tablespoonfuls of sherry wine, will be retained and absorbed by the weakest stomach, and such a dose repeated two or three times a day will tide a patient over an emergency. A half to a pint of coffee injected into the rectum in such instances will have a stimulating effect very valuable to the patient.

It may finally be necessary to resort to predigested foods, and then the various modes of peptonizing food may be employed, or the prepared foods may be used, such as trophonine, beef peptonoids, panopeptone, somatose, etc.

I have scarcely referred to the use of alcoholic stimulants in connection with the dietary because it is now generally conceded that alcohol is not a food, and its property as a heart stimulant can be better filled by the judicious use of strychnine.

In ordinary cases of typhoid fever and with many patients a very simple dietary will answer, but when complications occur and the patient rejects the ordinary routine, then the physician is often at his wits' end to supply his patient's wants without injuring his prospects of recovery, and under such circumstances the suggestions outlined in this paper may be of service.

EXAMINATIONS OF THE URINE IN EPILEPSY.*

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The subject of the urine in the insane was considered in a general way in a paper read before this society last January. Since then examinations have been made with the urine of epileptics, with a special reference to the presence of albumin and glucose closely following a seizure, and during an interval of freedom from seizures, and under a special diet of starchy and saccharine food stuffs. In the first of these, the urine of twenty-three patients—twelve women and eleven men—was collected as soon after a seizure as possible. The time of collection varied from ten minutes to five hours, the average being about an hour and a half. Contrary to the statements in most text-books, very little polyuria was observed. The specific gravity ranged from 1.007 to 1.026, the average being 1.020. The color varied from a pale straw to amber, mostly the latter. The reaction was acid in all but two cases. In the latter it was alkaline and had been collected during what Haig terms the "alkaline tide." Albumin was present in faint traces in fifteen of the twenty-three cases.

Four tests for albumin were used—namely, the boiling test, Heller's test, Roberts's nitric magnesium fluid, and Spiegler's reagent. In only one case (a case of chronic nephritis) was albumin present in sufficient quantity to be detected by the boiling and Heller's tests. Eight responded to Roberts's test, and all fifteen gave distinct results with Spiegler's reagent.

Finding albumin (not albumose) so frequently with the latter reagent occasioned some doubt as to the accuracy of the test. But later the same reagent was applied to the urine of the same patients during a comparatively long interval between seizures, and only three of the total number gave positive results. This, in addition to like results obtained with normal urines, seemed sufficient proof of the reliability of the reagent and the findings obtained therewith. It would seem that the presence of so small an amount of albumin in the urine after an epileptic paroxysm would be of little significance, for it is well known that traces of albumin, even up to 0.1 per cent., may be found in the urine after moderate bicycle riding, cold baths, etc. By some this is considered physiological; but others are inclined to believe with Simon, who says: "The more closely the subject of so-called physiological albuminuria—following severe muscular exercise, cold baths, mental labor, severe emotions, digestion, etc.—is studied, the more improbable does its physiologic nature appear, and a more detailed study of the metabolic processes, it may be confidently asserted, will ultimately lead to the conclusion that the presence of albuminuria (serum albumin) in every case is a pathologic phenomenon" (1).

A. Robin has a strong conviction that these functional and secondary albuminurias are apt to persist, and to result in actual lesions of the kidney and the development of Bright's disease (2).

Stephan thinks that in many cases functional albuminuria is due to toxic causes, which may be introduced into the body, or may be produced by digestive or metabolic disturbances within the body, and that other cases may be reflex, vasomotor, or trophic disturbances (3).

Whether the transitory albuminuria following epileptic seizures is due to a toxic origin or to increased blood pressure, or is produced by digestive or metabolic disturbances, still remains to be demonstrated. In the case of chronic nephritis mentioned, it appeared (if one can judge from three observations) that the albumin was increased shortly after a convulsion.

This patient was admitted fifteen years ago, and, according to the case notes, he was in very excellent physical condition when admitted, considering other facts found in his history; and, judging from his present condition, it is fair to assume that the nephritis is of recent origin, and is without any obvious cause.

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* Read before the Willard State Hospital Medical Society, September 20, 1899.

The question arises, Is this case one which began as a functional albuminuria? Albumose was found in three of the above-mentioned number. In one patient it was found three times after a convulsion. The biuret test was employed. It is not believed that the presence of albumose in the urine of these cases has any direct relationship to the convulsions, but rather it may be regarded as evidence of defective metabolism. Chlorides were tested for volumetrically, and were found to be in excess after a convulsion in fourteen of twenty-one patients examined. In six out of ten examined during an interval between seizures, the chlorides were present in normal quantity, while in the four others they were decreased.

Bohne has reached the conclusion that retention of chlorides in the organism, if not the only cause for uræmic and comatose conditions, is nevertheless the one principally concerned (4).

Glucose was not found in any of these cases. The tests applied were Nylander's and the Worm-Müller modification of Fehling's test. In every case the urine was subjected to a preliminary filtration through animal charcoal. As this method was adopted in all the examinations included in this paper, and as some doubt exists as to the advisability of using animal charcoal for this purpose, it might be well to add a few words in regard to it.

Sir W. Roberts strongly advocates preliminary filtration of the urine through animal charcoal, and gives his reason that the urine is thus freed from uric acid and urates, as well as from the coloring matter, whereby the urine is brought to a peculiarly favorable condition for giving a clear and definite response to the copper tests (5). On the other hand, the observations of Seegan and Mark McDonald seem to show that "filtration through animal charcoal leads to some loss of sugar, the charcoal retaining it so firmly that even thorough washing will not remove all of it" (6).

The writer concluded to follow the recommendations of Sir W. Roberts after submitting the matter to a practical test—viz., a small quantity of glucose was added to a normal urine. A portion of the mixture was examined for glucose without previous filtration through animal charcoal, while the second portion was examined after filtration, and it was found that not only was the reaction for glucose more clear and unquestioned in the filtered portion, but also, after further dilution, gave the reaction longer. Further, by thus filtering the urine of the cases in question, it is believed that the difficulty pointed out by Dr. McDonald was avoided—namely, "the difficulty in deciding whether the urine contains a little sugar, or whether it is simply that its normal reducing substances are present in excessive quantity" (7). For it was found that in the present examinations many of the urines gave very confusing reactions prior to filtration, and it seems that, although a slight loss of glucose may be occasioned by filtering the urine through animal charcoal, the fact of thus eliminating a large source for error is of a decided advantage. It is true that the use of the phenyl-hydrazin test would not have necessitated filtration, and that therefore the question of loss of glucose would have been avoided. But the Worm-Müller test was preferred because of its greater delicacy, and because of its simplicity as compared to the former. The non-finding of glucose in these cases is but in accord with the observations of Simon. Dr. Simon obtained only negative results in a large number of cases of epilepsy with the urines voided the first few hours following the seizure.

As already stated, the urines of the same patients were examined during a comparatively long interval between seizures.

The same methods and tests were applied as in the first, and, excepting the results as already stated, the urines, so far as examined, did not seem to differ from normal urine. In the third series, fourteen patients were put on a very liberal starchy and saccharine diet for from two to four days. This diet consisted of rich cakes, cornstarch puddings, preserves, cereals of various kinds, cocoa, etc. It is estimated that in this diet each patient consumed from five to seven ounces of cane sugar daily. The urine examined was obtained between one and two hours after every third meal.

In ten cases, where only six meals were taken, no glucose was found. Two cases did not show glycosuria after nine meals, while the remaining two showed traces of glucose after the twelfth meal. By obtaining the latter results, it was thought that by persisting in the diet the degree of glycosuria might increase proportionately. Accordingly, six other patients were selected and were given the diet for one week. For convenience I will number these patients from one to six inclusive. After the first day no change in the urine was noted. At the end of the second day, the urine of No. 1 gave a slow but decided greenish reaction, and after twenty-four hours a slight deposit of the suboxide of copper was found. After the ninth meal Nos. 1 and 2 showed a quick greenish reaction, No. 3 being very slow and faint. After twenty-four hours a small deposit of the suboxide of copper was found in Nos. 1 and 2. In No. 3 the deposit was very slight. From then to the twenty-first meal, beyond an occasional greenish reaction, no further change was observed in these cases. In No. 4 no reaction for glucose was noted until after the twelfth and fifteenth meals, and none thereafter. In these, as in the former, the reactions were slow. No. 5 showed only a slight reaction after the fifteenth meal, none after the eighteenth, and a decided greenish-yellow reaction (no deposit) after the twenty-first meal; and No. 6, beyond an occasional greenish reaction, showed no glycosuria throughout. All the foregoing results were obtained with the Worm-Müller test. Nylander's test was also employed, but, as expected, it proved too coarse. Fehling's test solution, as ordinarily prepared and used, was employed in the urines in which the Worm-Müller test gave positive reactions, but, excepting in one case, the solution did not even change color from the characteristic blue. Although the glycosuria in these cases was not very marked, it is believed that the results as found were greater than they would be in normal people under like conditions. For it is quite clearly established that prolonged, increased carbohydrate diet causes little or no increase of sugar elimination in normal cases. It is also thought that, were it not for the well-known fact that digestion and absorption are slow in epileptics, even more glucose would have been found in these cases.

Owing to the inability of the writer to find any literature or statistics on the subject of diet and its influence on the urine of epileptics, a comparison of these results will have to be omitted. One reference was found on the relationship of diabetes mellitus and epilepsy. This was by Dr. Ebstein. In referring to several cases in his experience, he says that the relation may be one of pure association, the epilepsy may be due to diabetes mellitus, or the diabetes mellitus may be the result of the epilepsy (8). Although a transient glycosuria can be readily induced, and may often be present in epileptics, as in fact in most all nervous conditions, it is not believed that it plays an important rôle in the production of true diabetes mellitus, for it is well known that cases of true diabetes mellitus are very rarely found in insane hospitals. The combined number of seizures during the week of the diet was twelve. Eight of these occurred within five hours of collection of the urine, and the remaining four between eight and twenty hours. In the first albumin was noted four times, albumose three times (twice in one patient), and chlorides were in excess in four. In the remaining four albumin was found but once, albumose once (same patient as above), and no appreciable change in the amount of the chlorides was noticed.

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2. *American Yearbook*. Gould, 1899, from *Bulletin de l'Académie de médecine*, August 17, 1897.
3. *American Yearbook*, 1896, from *Centralblatt für innere Medicin*, No. 18, 1895.
4. *American Yearbook*, 1898, from *Fortschr. der Medicin*, February 15, 1897.
5. *Chemist and Druggist*, April 18, 1896, from *Practitioner*.
6. *American Yearbook*, 1898, p. 1019, quoted.
7. *Lancet*, September 19, 1896.
8. *American Yearbook*, 1899, from *Deutsche medicinische Wochenschrift*, January 6, 1898.

The Northwestern Medical and Surgical Society.—At the recent annual meeting officers were elected as follows: President, Dr. Robert A. Murray; vice-president, Dr. Frank Grauer; treasurer, Dr. Robert H. Greene; secretary, Dr. S. Henry Dessau.

Therapeutical Notes.

For the Stomatitis of Grippe.—*Presse médicale* for August 19th recommends the following:

℞ Lactic acid	37½ grains;
Essence of mint	10 drops;
Water	3,750 grains.

M.

The mouth may be washed twice daily with this lotion. If there is suppuration in the tonsillar crypts the following may be applied:

℞ Salicylic acid	from 7½ to 15 grains;
Alcohol	q. s. to dissolve;
Glycerin	600 grains;
Water	900 "

M.

Iodide of Potassium in Enemata.—*Journal de médecine de Paris* for December 24th quotes from *Gazette des hôpitaux*, June 1st, the assertion that when iodide of potassium is not well tolerated by the stomach and is consequently administered in an enema, too great a quantity of fluid is commonly used. M. Kirstein recommends the employment of an ordinary syringe furnished with a caoutchouc nozzle. Two coffeespoonfuls (about a hundred and fifty minims) of the following solution should be injected into the rectum thrice daily:

℞ Distilled water	3,000 grains;
Iodide of potassium	150 "

M.

To accustom the rectum to the drug it is suggested that less strong doses should be used at first.

An Ointment for Pruritus.—*Progrès médical* for September 23d attributes the following formula to Leredde:

℞ Methyl salicylate	2 parts;
Zinc oxide, Vaseline, } each	20 "

M.

For Nervous Maladies and Mental Depression.—According to the *Journal de médecine de Paris* for September 10th, Robin recommends:

℞ Glycerophosphate of lime,	from 3 to 6 grains;
Powdered nux vomica	$\frac{3}{10}$ to $\frac{6}{10}$ of a grain.

M. For one dose.

Kahane prescribes:

℞ Glycerophosphate of sodium	375 grains;
Distilled water, Orange-flower water, } of each	750 "
Syrup of orange peel	450 "

M. One coffeespoonful three times a day.

The Inunction of Salicylic Acid.—The *Medical News* for December 16th says that salicylic acid, if mixed with an oily vehicle, is quickly absorbed. It may be prescribed thus in connection with its internal administration for rheumatism. Oil of wintergreen may be used in place of it with advantage.

℞ Salicylic acid	2½ drachms;
Alcohol	1½ ounce;
Castor oil	3 ounces.

M. S.: Rub into the affected part, covering first with an impervious material, then with flannel or cotton wool.

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RECTAL MASSAGE FOR COCCYGODYNIA.

There are probably various morbid conditions that may account for the painful affection known as coccygodynia, a term, by the way, not wholly satisfactory, since the pain is not always referred to the coccyx itself, is not invariably aggravated by movements of that bone, and is not generally cured by its removal. Dr. H. Rose, of Hamburg (*Centralblatt für Gynäkologie*, November 25th), seems to have discovered a previously unrecorded and probably unnoticed cause of the affection, and at the same time the fact that this particular form of coccygodynia may be cured by so simple a procedure as massage executed from within the rectum. He has met with a number of cases in which the pain was increased by pressure upon a tender point situated in the immediate neighborhood of the third or fourth anterior sacral foramen, generally the fourth. In slight cases only this point of tenderness is detected, but in those that are severe there is tumidity also involving a very definite area of small extent. This swelling he attributes to chronic œdema.

In his first case he happened to observe that continued pressure on the tender and swollen spot, associated with gentle friction in a circular direction, caused the puffiness to disappear and at once relieved the pain. It came back after a few hours, but, acting upon the hint he had obtained, he repeated the manœuvre daily for a time and then at longer intervals until at last even the occurrence of menstruation did not bring back the pain. He has employed this treatment in a number of cases, and invariably with good results. He thinks his success can not have been due to suggestion, for he was careful in all his cases to eliminate that possibility; he would purposely touch some other point than the swollen one, saying to the patient: "Now I am on the sore spot." "No," was the invariable reply, "that is not it." Moreover, massage of any other area was fruitless.

Dr. Rose gives short histories of three of his cases. One of them was in a woman who was under treatment for chronic cystitis and pelvic peritonitis. Five years previously, ten years after the birth of her only child, the coccygodynia had begun with severe pain on sitting down, so that she got into the habit of sitting on one buttock only. At first the pain occurred only in connection with the menstrual flow, but it afterward became more continuous and severer, and was aggravated during defæcation and by walking. The second case presented the peculiarity that stooping increased the pain. It was in this instance that the tumid area corresponded in situation to the third anterior sacral foramen. The only noteworthy features about the third case were that the patient had never been pregnant and that the pain was most severe in the anus. All three of the cases were severe.

The trouble in these cases described by Dr. Rose seems to have been coccygeal neuralgia depending on pressure exerted by an œdematous swelling on a sacral nerve at its point of emergence. Its manifestation in the area of distribution of the coccygeal nerve Dr. Rose attributes to the almost invariable communication of that nerve with the last sacral. This form of coccygodynia is favored by any condition that conduces to blood stasis within the pelvis, and after it has been cured by means of massage relapses are chiefly to be guarded against by keeping the bowels free. Of course, inflammatory and congestive pelvic diseases favor the œdema to which the neuralgia is attributable, and they should not be neglected, but Dr. Rose has made it plain that independent treatment of the coccygodynia is capable of curing it while yet such diseases persist. The author does not affirm that massage is the only remedy, but, as he is quite justified in remarking, it is a valuable addition to our resources for the relief of a very painful condition.

THE ORIGIN OF SEX.

The literature of the problem of sex production is increased by some Notes on the Origin of Sex published in the *Intercolonial Medical Journal of Australasia* for October 20th. The author, Dr. Arthur Frederick Davenport, at least gives evidence enough of his capacity to justify attention being drawn to his views; for his obstetrical experience seems to have been considerable, the period over which his researches have extended amounts to sixteen years, his investigations have been supported by experiment, and he appears, moreover, to have thoroughly acquainted himself with what had already been done by others in the subject, thus obviating a not uncommon cause of failure among aspiring original investigators.

The upshot of Dr. Davenport's investigations is what is known as the "cross heredity of sex"—viz., that "the sex of the child is determined at the moment of conception, and is the opposite to" (that of) "whichever parent is at that moment in relatively the more vigorous health."

Dr. Davenport shows how he arrived at this conclusion, how he subsequently verified it experimentally, and finally how it harmonizes with all that appears probable in each of the conflicting theories of other investigators.

It is a pretty generally acknowledged fact that "the ratio of male to female children at birth varies so slightly in different countries and among different races as to almost constitute a law." The ratio for Europe is placed at about a hundred and six males for a hundred females.

Upon this the author says: "In striking contrast to this average, preserved regardless of environment throughout the human race as a whole, stands out the disproportion between the sexes often observable in individual families," the cause of which disproportion must exist in the parents.

During twelve months' residence in the Rotunda Hospital, Dublin, in 1883, the author began his observations among the poorer Irish families in the slums, who, as he says, "marry young, are rarely sterile, and in the matter of procreating their species take no thought for the morrow." In the majority of such families he found the greatest disparity between the sexes of the children, amounting in some instances to whole families of ten or more of one sex. Yet, out of between four and five hundred families observed, a total of 2,540 children gave males 1,313, females 1,227—a fairly balanced ratio singularly near the estimated 106 to 100.

Thus came to him the question "Why had A. B., aged thirty, cab driver, with a wife aged twenty-seven, a family of one girl and six boys, while his neighbor, C. D., aged thirty-three, laborer, with a wife aged twenty-nine, had a family of seven girls?" The continual repetition of this problem led him to the observation that "the family which contained an undue majority of male children possessed also a mother proportionately more vigorous and in better health than her husband, while in the family with an undue majority of female children the father was proportionately superior in vigor and health to his weakly wife. In many families this rule was exceedingly striking; in others, where the sexes were more evenly matched, so also were the parents." The author defines the term health in this connection as "meaning practically that condition brought about as the resultant of those forces which create in their owner a longer or a shorter 'expectation of life.'"

From this step to the question Would it not be possible, by exalting the mother's physical vigor or depressing that of the father—or by a combination of the two methods, just enough to produce a marked preponderance of vigor in the mother's favor—to induce the conception of boys, and *vice versa?* was an easy transition. Dr. Davenport essayed to prove it first on animals. He records his first experiment, made in 1886, with a pair of fox terriers which had previously always produced more or less even litters. When he depressed the dog's health by confinement, low diet, etc., and elevated that of the slut by fresh air, exercise, plentiful feeding, and so forth, prior to the lining, the gestation resulted in a litter of five dog pups. He repeated the process, reversing the conditions of treatment, with the result that the next coupling produced three bitches and one dog. Dr. Davenport's views in this matter are supported by the practice of a "station" manager in New South Wales, who, when desiring to perpetuate any strain of cattle and requiring to produce a heifer for that purpose, stall-feeds the bull and turns the cow out to grass prior to service, and reverses the treatment if a bull calf is desired.

The author next put his plan into operation in the human family, and records several instances. On the whole he has had forty-five cases in twelve years. In six instances treatment was futile and was not persevered with on account of organic disease, phthisis, cancer, marked chronic nephritis, etc. Of the remaining thirty-nine families all were picked examples for the application of his methods; each family contained an undue proportion of either male or female children, and in every instance he found the same conditions existing in a more or less marked degree—viz., the majority of male children possessed a proportionately more healthy mother, the majority of female children a proportionately more healthy father. The results were thirty-two successes and seven failures; but in four of the failures no pregnancy could be induced, and of the three others the author says that the measures were undertaken in so half-hearted a manner that he was not surprised at failure.

The following is the author's *modus operandi:* He first makes a careful examination of both parents with a view to treating and eliminating any habit, disease, functional disorder, or pathological defect that might have any bearing on the health of the weaker parent. Sexual intercourse is next forbidden for one month and both parents are placed under treatment to build up and elevate the health of the previously inferior parent, and to depress the general tone and health of the previously superior. The first object he achieves: *a.* By a suitable *régime* of stimulating diet especially adapted to the constitution to be dealt with, and varying, of course, considerably in different cases. *b.* By insisting on regular hours for sleep, exercise in the open air, and sunshine. *c.* By a course of tonic and stimulating drugs. *d.* By means of the many other ways known to all and used for building up the general tone of the system—viz., change of air if necessary, cessation from overstrain in mental or physical work, etc.

The latter object the author attains by *a.* Recommending a course of low diet into which non-nitrogenous elements largely enter. *b.* By ordering a maximum of sedentary and brain work with a minimum allowance of sleep. *c.* By a course of nerve sedatives, bromides, iodides, etc., for the latter half of the month. The month having expired, intercourse is permitted on the third day after the cessation of menstruation. If pregnancy ensues, all further treatment is unnecessary, the author believing that the sex is determined at the instant of conception. The depression of the stronger parent is entirely temporary and disappears on the resumption of the ordinary mode of life.

As to the theories of others, the author points out that Girou's theory, propounded in 1823, that the offspring follows the more vigorous parent, would ultimately result in "the establishment of a colony of males." Cross heredity tends, however, to the maintenance of periodically recurring equilibrium. Hofacker's and Sadler's law, promulgated between 1828 and 1830, that "the sex of the child depends upon that of the parent whose age is in excess of that of the other," simply, according to Dr. Davenport's contention, resolves itself into cross heredity, inasmuch as advanced age means, *other things being equal,* lesser "expectation of life." The well-known fact of the preponderance of male births after a war the author attributes to the exhaustions and anxieties of warfare having depressed the male population and so placed the women in the stronger position, whence they produce male children.

Finally, Schenk stated in 1898 that the urine of women bearing only female children invariably contained a larger or smaller quantity of sugar. On this the author asks, "Is not the glycosuric mother the less healthy parent," and Schenk's rule therefore only *one possible factor* out of the more general and broader law of cross heredity?

There is undoubtedly a great deal of thoughtful work in Dr. Davenport's paper, and it is of such a character and so plainly set forth that it can be followed up by the great mass of general practitioners and obstetricians in every country. By this means a consensus of facts could soon be obtained sufficiently large to generalize safely upon. There is no mystery enshrouding Dr. Davenport's views, no attempt to confine the practical application of them in his own hands; those facts in themselves render them deserving of careful consideration and experiment, whatever the actual result may be.

A NEW STUDY OF INDIAN HEMP.

That most disappointing of drugs, cannabis indica, has repeatedly been made the subject of investigations undertaken for the purposes of ascertaining its precise physiological action and of obtaining a preparation of unvarying strength. One of the most recent has been made by Dr. Walter Ernest Dixon, whose account of it appears in the *British Medical Journal* for November 11th. More than one baffling element confronts the investigator who would acquire an exact knowledge of hemp as a drug; not only is there no reasonable approach to certainty that any two specimens can be obtained that will prove identical in their action, but the idiosyncrasy of the subject of experiment is displayed in greater prominence than in the case of almost any other drug, as is well shown by the fact that Dr. Dixon found that equal quantities of the same preparation administered to two similar animals of the same weight and under identical conditions, so far as possible, narcotized one of them and had no effect on the other, which required three times the original dose before it showed any toxic effect.

Dr. Dixon believes that hemp, now naturalized in many parts of the world, was originally confined to a relatively small district in southern Siberia, whence it was carried to India, in which country alone it acquires its medicinal properties. These seem to reside in a resinous substance, but this material is apt to be used up in the formation of seeds unless the female flowers are removed from the plant. The variety of the drug with which he experimented was that known as *ganja,* consisting of the dried flowering tops coated with resin, and he found it most active when employed in the form of fumes from the burning mass taken by inhalation, although the effects did not last so long as those of the drug given by the mouth. The fumes were rendered much less irritating to the throat by passing them through water, but their action was somewhat diminished by that treatment. Dr. Dixon has convinced himself that hemp of different seasons, grown in various places, and prepared in diverse ways contains different amounts of resin, and that the resin varies very widely in its activity. Although the Indian dealers are said to regard the drug, however grown or prepared, as unfit for use if it has been kept two years, Dr. Dixon found a specimen that had been kept for twenty years but little if at all less toxic than the fresh product.

With all its uncertainty of action, Dr. Dixon regards hemp as a most valuable medicine. Like any other stimulant or sedative narcotic, he says, it may be abused, as when its employment is carried to the extent of producing delirium, but this, he thinks, is rarely done, and doubtless the abuse of the drug has been grossly exaggerated. Frequent observation, both subjective and objective, of the action of cannabis enables him to affirm that it is soothing and stimulating, and that the fumes have a specially valuable effect as a cerebral stimulant. In suitable doses, he adds, it produces no untoward after-effects.

THE PREVENTION OF LIFE-SAVING BY "CHRISTIAN SCIENCE."

A case recorded in the *Western Medical Review* for December 15th comes, if accurately stated, clearly within the limits of criminality. A professing Christian-Science healer of Fort Dodge, Iowa, undertook the sole charge of the case of a child suffering from post-pharyngeal abscess. The burrowing nature of this disease is well known, and the importance of providing an outlet for the pus is beyond question. This was not done, and the consequence was that the child died from asphyxia. Mr. Lincoln, the healer in question, signed the certificate as the "attending nurse," giving the cause of death as "spasms." Many of the cases where death ensues under Christian-Science treatment are those of incurable disease, concerning which, while it is probable that proper skilled aid would have ameliorated suffering if not prolonged life, it is yet impossible to assert positively that such would have been the case, and still more impossible to state that Christian Science was in any sense a cause of death. But the case now recorded is one in which proper treatment would undoubtedly have saved life, and death was directly due to its being withheld. Although we believe that Iowa is one of the States that have legalized this pestiferous and unscrupulous charlatanry, there should still be a remedy in a firm application of the law of malpractice.

THE COMPULSORY REPORTING OF CONSUMPTION IN MICHIGAN.

We are glad to learn that the test suit lately brought against a well-known Detroit physician to compel him to pay a fine for omitting to report a case of tuberculous disease has failed, though we wish it might have been for some other reason than the failure of the statute to make specific mention of such disease in its enumeration of those that must be reported.

EPIDEMIC ICTERUS WITH PLEIOCHROMIA.

Epidemics of jaundice are not of rare occurrence, but their ætiology is not generally made out satisfactorily. Dr. Bignami (*Gazzetta degli ospedali e delle cliniche*, 1899, No. 1; *Centralblatt für innere Medicin*, December 16th) records one which accompanied an epidemic prevalence of typhoid fever and acute gastroenteritis. The jaundice was accompanied by severe prostration, muscular pains, and moderate fever of short duration. In the severer cases there was painful swelling of the liver and more rarely of the spleen. The term biliary pleiochromia is employed by the author, perhaps on account of the fact that, in spite of the jaundice, the fæces preserved their color. He sought in vain for a specific micro-organism, and thinks the impure drinking water may have given unusual activity to the microbes commonly found in the digestive tract.

OPERATIONS ON THE INSANE.

We lately remarked upon the importance of attending to the physical ailments of the insane. Mr. J. Paul Bush, of the Bristol Royal Infirmary, is evidently of our way of thinking. In the September number of the *Bristol Medico-chirurgical Journal* he relates a number of instances in which operative measures not only fulfilled their physical indications, but were soon followed by recovery from the mental trouble.

THE *WOMAN'S MEDICAL JOURNAL.*

It is announced that with the beginning of the year 1900 certain changes will be made in the editorial staff of this valuable journal as to render it still more useful than it is at present. We wish it the utmost success, and have no doubt it will achieve it.

THE EFFECTS OF GREAT COLD ON INJURIES BY CRUSHING.

In the popular mind there is great dread of danger in exposing an injured person to cold. Doubtless it intensifies the shock of a severe injury, but it may have some good effect also. Dr. W. A. Potts, of Birmingham (*Edinburgh Medical Journal*, December), thinks it may aid in keeping wounds aseptic and determine the occurrence of dry instead of moist gangrene. He gives two cases that seem to lend color to this view.

CARBOLIC ACID MISTAKEN FOR BRANDY.

The *Pacific Medical Journal* for November records the death of a prominent physician of San Pedro from drinking carbolic acid in consequence of a mistake between two phials in his medicine chest, the one containing that drug and the other brandy. It seems almost incredible that any one, let alone a physician, should be able to drink carbolic acid in mistake for brandy without his nose giving him warning ere the error was accomplished. But the fact, at any rate, emphasizes the importance of always keeping poisons apart from other things, and even in a medicine chest an inner closed compartment should separate them from the bulk of comparatively innocuous drugs.

THE SANCTITY OF PROFESSIONAL CONFIDENCE AGAIN.

In our issue for December 23d we had an editorial note on this subject, commenting on the objectionable standpoint taken by the law officers on that subject in Great Britain. A correspondent in the *Lancet* for December 2d asks the following questions: "B is seeking a divorce from A. I attended A for an illness in 1889. The solicitor who is acting for B and who is cognizant of the disease from which A suffered wishes me to explain in writing the nature of A's illness. I have told him that I consider it my duty to do so only if called upon by a court of law. Am I right?" To this the *Lancet* replies editorially: "The only possible answer is that our correspondent is certainly right." As the attorney was not an officer of the law, we think the doctor would have been quite justified in ordering him peremptorily out of his house, and we do not see that because an objectionable law exists which refuses to recognize the inviolable sanctity of professional confidence, the physician is therefore called upon to give a would-be litigant information as to how compliance with it may be enforced.

MR. TAYLOR'S ARTICLES ON THE LAW IN ITS RELATION TO PHYSICIANS.

IN last week's issue we printed the concluding article of Mr. Arthur N. Taylor's valuable and interesting series. We have heard from many of our readers in regard to these articles, and they have invariably commended them. We are glad to be able to announce that they will soon appear in book form.

ITEMS.

Infectious Diseases in New York.—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported for the two weeks ending December 23, 1899:

DISEASES.	Week ending Dec. 16.		Week ending Dec. 23.	
	Cases.	Deaths.	Cases.	Deaths.
Typhoid fever	91	9	41	14
Scarlet fever	147	11	176	10
Cerebro-spinal meningitis	0	4	0	6
Measles	482	13	484	15
Diphtheria	273	37	274	42
Croup	9	3	14	12
Tuberculosis	171	154	98	157
Chicken-pox	29	0	16	0
Small-pox	2	0	1	0

The Senate Committee on the District of Columbia.—In last week's issue of the *Journal*, in Dr. Keen's appeal to the medical profession, the names of the committeemen appeared, but without the States from which they come. We now reproduce the names of the members of the committee as follows: James McMillan, Michigan (chairman); J. H. Gallinger, New Hampshire; H. C. Hansborough, North Dakota; Redfield Proctor, Vermont; J. C. Pritchard, North Carolina; Lucien Baker, Kansas; C. P. Wetmore, Rhode Island; C. J. Faulkner, West Virginia; Thomas S. Martin, Virginia; William M. Stewart, Nevada; Richard Kenney, Delaware.

The Late Dr. Charles Inslee Pardee.—At the last meeting of the board of managers of the Manhattan State Hospital the following resolutions were passed:

Resolved, That this board, having learned from the report of the general superintendent of the death of Professor Charles Inslee Pardee, M. D., of the board of consulting physicians and surgeons of this hospital, places upon record its sense of the valuable services rendered by Professor Pardee to the hospital during his connection with its consulting board, dating from that board's first organization in 1879, its sincere regret at their termination, and its sympathy for his family in their affliction.

Resolved, That the secretary be requested to enter a minute of the board's action upon the records of the hospital, and to transmit a copy thereof to Professor Pardee's widow.

Marine-Hospital Service Health Reports.—The following cases of small-pox, yellow fever, cholera, and plague were reported to the surgeon-general during the week ending December 23, 1899:

Small-pox—United States.

Cairo, Ill.	Dec. 8–16	2 cases.	
Chicago, Ill.	Dec. 8–16	1 case.	
Allen County, Ind.	Dec. 13	27 cases.	
Evansville, Ind.	Dec. 8–16	1 case.	
New Orleans, La.	Dec. 2–16	8 cases.	
Shreveport, La.	Dec. 8–16	2 “	
Baltimore, Md.	Dec. 8–16	1 case.	
Benton Harbor, Mich.	Dec. 8	Present.	
Benton Township, Mich.	Dec. 8	Present.	
Carrollton Township, Mich.	Dec. 8	Present.	
Detroit, Mich.	Dec. 8	Present.	
Masonville Township, Mich.	Dec. 8	Present.	
Watervliet Township, Mich.	Dec. 8	Present.	
New York, N. Y.	Dec. 8–16	2 cases.	
Pittsburgh, Pa.	Dec. 8–16	1 case.	
Nashville, Tenn.	Dec. 8–16	2 cases.	
Salt Lake City, Utah	Dec. 8–16	1 case.	
Portsmouth, Va.	Dec. 8–16	10 cases,	2 deaths.

Small-pox—Foreign.

Antwerp, Belgium	Nov. 18–Dec. 2	8 cases,	7 deaths.
Prague, Bohemia	Nov. 18–25	20 “	
Ontario, Canada	Oct. 30–Nov. 28	120 “	
Barranquilla, Colombia	Nov. 25–Dec. 2	5 “	
London, England	Nov. 25–Dec. 8	1 case.	
Marseilles, France	Nov. 27–Dec. 4		9 “
Athens, Greece	Nov. 18–Dec. 2	8 cases,	2 “
Bombay, India	Nov. 15–21		7 “
Madras, India	Nov. 4–10		1 death.
Osaka and Hiogo, Japan	Nov. 11–18	1 case.	
Chihuahua, Mexico	Dec. 2–9		8 deaths.
C. P. Diaz, Mexico	Nov. 20–Dec. 10	1 “	1 death.
Monclova, Mexico	Nov. 20–Dec. 10	6 cases,	1 “
Progreso, Mexico	Nov. 20–Dec. 10	20 “	
Sabinas, Mexico	Nov. 20–Dec. 10	17 “	3 deaths.
San Felipe, Mexico	Nov. 20–Dec. 10	22 “	18 “
San Juan de Sabinas, Mexico	Nov. 20–Dec. 10	7 “	
Vera Cruz, Mexico	Nov. 7–14		2 “
Odessa, Russia	Nov. 18	3 “	
St. Petersburg, Russia	Nov. 18–Dec. 2	18 “	1 death.
Warsaw, Russia	Nov. 18–25		4 deaths.
Corunna, Spain	Nov. 18–Dec. 2	4 “	3 “
Straits Settlements, Singapore	Oct. 7–28		31 “

Yellow Fever—Foreign

Panama, Colombia	Dec. 4–12	6 cases,	1 death.
Havana, Cuba	Dec. 2–9	10 “	2 deaths.
Vera Cruz, Mexico	Dec. 7–14		3 “

Cholera.

Bombay, India	Nov. 14–21		2 deaths
Calcutta, India	Oct. 14–28		8 “

Plague—Foreign.

Hongkong, China	Nov. 4–11	19 cases,	19 deaths.
Bombay, India	Nov. 14–21		110 “
Calcutta, India	Oct. 22–28		60 “
Kurrachee, India	Nov. 11–18	6 “	6 “
Osaka and Hiogo, Japan	Nov. 11–18	1 case.	

The Death of Professor Puschmann.—We learn from the *British Medical Journal* for December 16th of the recent death, in his fifty-sixth year, from old-standing kidney disease, of Dr. Theodore Puschmann, professor of the history of medicine in the University of Vienna. Dr. Puschmann was a scholar of the highest order and a philologist of mark. His work on the *History of Medical Education* has been translated into English by Mr. Evan H. Hare.

The Buffalo Academy of Medicine.—At the last regular meeting of the Section in Obstetrics, on Tuesday evening, the 26th inst., the following papers were presented for discussion: Cancer of the Cervix, by Dr. Charles E. Congdon, and The Difficulties a Young Doctor encounters in Obstetric Practice, by Dr. Nelson W. Wilson.

Change of Address.—Dr. George P. Biggs, to No. 39 East Sixty-third Street, New York.

Naval Intelligence.—*Official List of Changes in the Medical Corps of the United States Navy for the Week ending December 23, 1899:*

AMES, H. E., Surgeon. Detached from the Norfolk Navy Yard and directed to proceed home and to be ready for orders to sea service.

BELL, W. L., Assistant Surgeon. Detached from the *Independence* and ordered to the island of Guam *via* the *Scindia.*

DAVIS, E., Assistant Surgeon. Ordered to duty at the Naval Hospital, New York.

DUNN, H. A., Assistant Surgeon. Detached from Port Royal Naval Station and ordered home to await orders.

ELLIOTT, M. S., Assistant Surgeon. Detached from the Vermont and ordered to duty at Port Royal Naval Station.

HARMON, G. E. H., Medical Inspector. Detached from the *Brooklyn* and ordered to the *Baltimore.*

LANGHORNE, C. D., Assistant Surgeon. Detached from the *Monterey* and ordered to the *Princeton.*

LOWNDES, C. H. T., Passed Assistant Surgeon. Detached from the *Princeton* and ordered home.

NORTON, O. D., Surgeon. Detached from the *Solace* and ordered to the *Monadnock.*

PERCY, H. T., Surgeon. Ordered to the Norfolk Navy Yard.

PERSONS, R. C., Medical Inspector. Detached from the *Baltimore* and ordered to the *Brooklyn.*

STOUGHTON, J., Passed Assistant Surgeon. Detached from the *Monadnock* and ordered to the *Bennington via* the *Solace.*

WHEELER, W. M., Passed Assistant Surgeon. Detached from duty at the Naval Hospital, New York, and ordered to the *Vermont.*

Marine-Hospital Service.—*Official List of Changes of Stations and Duties of Commissioned and Non-Commissioned Officers of the United States Marine-Hospital Service for the Seven Days ending December 21, 1899:*

WASDIN, EUGENE, Surgeon. Granted leave of absence for one month and fifteen days, to take effect on or about January 15, 1900.

WHITE, J. H., Surgeon. Detailed, under the provisions of the act of congress approved March 2, 1899, as a member of a commission to investigate the origin and prevalence of leprosy in the United States.

VAUGHAN, G. T., Passed Assistant Surgeon. Detailed, under the provisions of the act of congress approved March 2, 1899, as a member of a commission to investigate the origin and prevalence of leprosy in the United States.

STONER, J. B., Passed Assistant Surgeon. Granted leave of absence for seven days from December 23d.

ROSENAU, M. J., Passed Assistant Surgeon. Detailed, under the provisions of the act of congress approved March 2, 1899, as a member of a commission to investigate the origin and prevalence of leprosy in the United States.

TROTTER, F. E., Assistant Surgeon. To proceed to Tortugas Quarantine and report to the medical officer in command for temporary duty.

KEYES, J. M., Acting Assistant Surgeon. Granted leave of absence for thirty days from December 16th.

TUTTLE, JAY, Acting Assistant Surgeon. Granted leave of absence for thirty days, to take effect on or about January 2, 1900.

COMFORT, N. C., Hospital Steward. Relieved from duty on steamer *Wapiti* and directed to proceed to Louisville, Kentucky, and report to the medical officer in command for duty.

Army Intelligence.—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 16 to December 23, 1899:*

CALHOUN, WILLIAM W., Acting Assistant Surgeon, United States Army, will proceed to San Francisco for duty.

DEAN, ELMER A., First Lieutenant and Assistant Surgeon, United States Army, will report at the General Hospital, the Presidio, San Francisco, for duty.

REYNOLDS, FREDERICK P., Captain and Assistant Surgeon, United States Army, will proceed on the transport *Sumner,* on or about January 15, 1900, to Manila.

WILCOX, STARLING S., Acting Assistant Surgeon, United States Army, is assigned to temporary duty at the General Hospital, the Presidio, San Francisco, awaiting transportation to the Philippine Islands.

Society Meetings for the Coming Week:

MONDAY, *January 1st:* New York Academy of Sciences (Section in Biology); German Medical Society of the City of New York; Morrisania Medical Society, New York (private); Brooklyn Anatomical and Surgical Society (private); Corning, New York, Academy of Medicine; Utica, New York, Medical Library Association; Boston Society for Medical Observation; St. Albans, Vermont, Medical Association; Providence, Rhode Island, Medical Association; Hartford, Connecticut, Medical Society; South Pittsburgh, Pennsylvania, Medical Society; Chicago Medical Society.

TUESDAY, *January 2d:* New York Neurological Society; Buffalo Academy of Medicine (Section in Surgery); Elmira, New York, Academy of Medicine; Ogdensburgh, New York, Medical Association; Hudson, New Jersey, County Medical Society (Jersey City); Androscoggin, Maine, County Medical Association (Lewiston—annual); Baltimore Academy of Medicine; Medical Society of the University of Maryland (Baltimore).

WEDNESDAY, *January 3d:* New York Academy of Medicine (Section in Public Health); Society of Alumni of Bellevue Hospital; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond, New York (New Brighton—annual); Penobscot, Maine, County Medical Society (Bangor); Bridgeport, Connecticut, Medical Association.

THURSDAY, *January 4th:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, New York;

Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington); Medical Society of City Hospital Alumni, of St. Louis; Atlanta Society of Medicine.

FRIDAY, *January 5th:* Practitioners' Society of New York (private); Clinical Society of the New York Post-graduate Medical School and Hospital; Baltimore Clinical Society.

SATURDAY, *January 6th:* Manhattan Medical and Surgical Society, New York (private); Miller's River, Massachusetts, Medical Society.

Births, Marriages, and Deaths.

Married.

LUSK—TIFFANY.—In New York, on Wednesday, December 20th, Dr. Graham Lusk, son of the late Dr. William T. Lusk, and Miss Mary Woodbridge Tiffany.

SHROPSHIRE—STEELE.—In New York, on Wednesday, December 20th, Mr. Ralph Freeman Shropshire and Miss Sophonisba Preston Breckinridge Steele, daughter of Dr. Theophilus Steele.

Died.

MASON.—In Troy, New York, on Sunday, December 17th, Emilie Harding Mason, wife of Dr. William P. Mason.

Obituaries.

EDWIN R. AXTELL, M. D., OF DENVER.

DR. AXTELL was born in Washington, Indiana, February 7, 1866. After receiving his preparatory education, he studied medicine and graduated from the Miami Medical College, Cincinnati, in 1888. He served for a year as interne in the Cincinnati Hospital, in which position he discharged all his duties so faithfully and conscientiously, and proved himself so valuable to the attending physicians, that he gained many friends, and left the hospital at the end of his term beloved and respected by all.

Dr. Axtell went to Denver in 1889, and spent eighteen months as interne in St. Luke's Hospital, where the same industry, conscientiousness, and faithfulness characterized his work and treatment of patients, with his courtesy and loyalty to the attending physicians, that had attended his residence in the Cincinnati Hospital. After leaving St. Luke's Hospital he opened an office and began to devote himself to the use of the microscope in the study of histology, pathology, and the investigation of the micro-organisms. He did his work so thoroughly in this line that he was able to throw light on many subjects which were bothering his fellow-practitioners. He was pathologist to St. Luke's and the Arapahoe County Hospitals for five years, and at the time of his death was one of the attending physicians of the latter hospital. He was connected with the University of Denver, Medical Department, for a period of about eight years, first as lecturer on pathology, and for the last four or five years as lecturer on renal diseases. He was secretary and treasurer of the faculty for a number of years. He was the father of the *Colorado Medical Journal*, and its editor and proprietor from the first issue to the time of his death. His editorials were clean, spicy, and readable.

On December 1st of the present year, while making a post-mortem examination of the body of a patient that had died from sepsis, he cut his hand, and from this wound became infected and died two weeks later from the result of the poisoning.

Dr. Axtell was greatly beloved both by his patients and by his numerous friends among the medical profession. There has been no one that has been more loyal to his friends, more conscientious in his work, or more faithful in the performance of his duties than the lamented Dr. Edwin R. Axtell. His life was clean, his professional honor unsoiled, and he left us prematurely, just at the time when he had begun to reap the fruits of years of industry, toil, and the patient study of disease.

Pith of Current Literature.

The Place of Iodoform in Surgery.—Dr. Edmund C. Brush (*Journal of the American Medical Association,* December 16th), to answer the question, "Would surgery suffer if iodoform was abolished?" addressed a circular letter to one hundred representative surgeons holding recognized positions in medical schools respectively in London, Edinburgh, Quebec, Toronto, Montreal, and in twenty-two schools in the United States. The letter contained four questions: 1. What germicidal powder do you prefer? 2. Your second choice in germicidal powders. 3. Have you seen any bad effects from using iodoform? If so, what? 4. In your opinion would surgery suffer if iodoform was abolished? The author received eighty-four replies. The summary showed that twenty-seven surgeons used iodoform, twenty-four no powder of any kind, twelve boric acid, eight aristol, and thirteen various—*e. g.,* acetanilide, nosophene, iodol, etc. As to effects, seventy-three had seen bad effects, eleven had not—but four of the eleven did not use iodoform. The effect of the abolition of iodoform on surgery, according to thirty-seven, would probably be negative, while forty-seven considered that surgery would suffer. Of this latter class, twenty-seven think the detriment would be general, twelve limit it to surgical tuberculosis, and eight to its use in gauze and specific cases.

Dr. Brush considers that for the present the answer to the question proposed seems to be "Yes, to a very limited extent!" but he predicts that in five years the answer will be "No, not in the least!"

The Mensuration and Capacity of the Bladder in Women.—Dr. Guy L. Hunter and Dr. Irving P. Lyon (*Journal of the American Medical Association,* December 16th) report the result of a series of investigations made at the suggestion and with the assistance of Dr. Howard Kelly to determine the measurements and capacity of the bladder in women. All experiments were made on healthy living women in the knee-breast posture, the rectum, vagina, and bladder being dilated by atmospheric pressure produced by opening these cavities to the outside air by the insertion of a speculum, after Kelly's method.

In the twenty-five women examined, the average bladder capacity by atmospheric distention was found to be 303 cubic centimetres, individual cases ranging from a minimum of 160 to a maximum of 545 cubic centimetres. The capacity in general follows the general size of the bladder by internal mensuration, and also in a general way the size of the woman. Measurement was also made, in twenty-two cases, of the fluid content of the bladder, boric solution being used for this purpose. On anæsthetized patients the solution was introduced through the double-barreled catheter until overflow occurred through the upper barrel; on those without anæsthesia, until discomfort was caused to the woman. The average fluid capacity was thus found to be 429.7 cubic centimetres, varying in individual cases from a minimum of 210 to a maximum of 840 cubic centimetres. The fluid capacity of the bladder was thus found to be more than one third greater than the air capacity, a difference that would be expected because of the elasticity of the bladder walls under increased pressure.

The bladder, as a whole, when dilated with air and observed during operation within the pelvic cavity—from abdominal section—was found to be ellipsoidal in form, flattened somewhat in its antero-posterior diameter and increased transversely. The transverse diameter was always the greatest measurement. Mathematical calculation of the cubic content of an ellipsoidal viscus of the dimensions of the bladder corresponded closely with the actual air capacity obtained by expression.

The average length of the urethra in seventeen cases was 3.3 centimetres, the shortest urethra measuring 2.7 and the longest 4.2 centimetres.

The Question of Ocular Tenotomy.—Dr. E. H. Linnell (*Journal of Ophthalmology, Otology, and Laryngology,* October) concludes a paper on this question with the following aphorisms:

First. Send your patient to a thorough, careful, and conservative oculist.

Second. Be sure that all errors of refraction, even though slight, have been carefully corrected. The author is satisfied from his own experience that many nervous and asthenopic symptoms result from very slight refractive errors in persons of a susceptible nature, although he is aware that many oculists differ from him in this opinion.

Third. Be sure that the frames fit the patient's face properly.

Fourth. Be sure that a reasonable trial of systematic exercises for the development of the weak muscles, either with or without the use of electricity, has been made.

Fifth. If you have eliminated other sources of reflex disturbances, so that you are reasonably sure that the existing symptoms are directly dependent upon the heterophoria, advise tenotomy.

The Sterilization of Instruments with Boiling Distilled Water.—Dr. W. K. Roberts (*Journal of the American Medical Association,* December 16th) says, as a result of a series of experiments on the sterilization of cutting instruments, that if our ordinary hydrant water was used the edge of a knife was ruined, and in fact the whole instrument was damaged. The addition of soda to the water prevented the latter trouble, but only slightly lessened the harmful result to the edges. Rain water and the condensed vapor of the artificial ice establishments yielded less disastrous results, but still a knife boiled in these solutions, even with the addition of various preparations of sodium or potassium, was unfit for delicate use. As a consequence, inquiry of a large number of general surgeons elicited the information that, while instruments in general were usually prepared for operations by boiling, knives were simply scrubbed carefully, or scrubbed and dipped in alcohol. The efficiency of alcohol as a disinfectant has been so frequently questioned that its use seems almost superfluous.

The author's experiments proved that not only might instruments be safely boiled in distilled water a sufficient length of time to become sterile, but also, if distilled water was used in a sterilizer that was free from oxidized metal, the vapor and steam thus generated could be made use of for the preparation of instruments, dressings, and other appurtenances of an operation without harmful results to any of them, which would seem to be a convenience and to confer a simplicity greatly to be desired.

Some of the Mental Conditions in Fasting and Abstinence.—The *British Medical Journal* for October 7th says editorially that in a recent *Thèse de Paris* Dr. Lassignardie deals at some length with certain interesting questions regarding fasting and abstinence, and investigates the mental conditions resulting from total or partial abstinence from food. There are several sorts of abstinence to be distinguished from one another. First, there is the voluntary abstinence which may be undertaken by any one for " exhibition " purposes, and among instances of this sort should be classed the experiments of professional fasting men such as Succi and Merlatti in recent times. A second category includes enforced abstinence from food during illness, as in the case of patients suffering from acute fevers, hysteria, and acute insanity. Another group includes cases of enforced privation, either from poverty and want, from shipwreck and absence of provisions, or from accidental entombment in mines, etc. A fourth class includes the rare instances where fasting has been determined on by persons with suicidal intent, as in the cases recorded of Viterbi and Guillaume Granie. Finally, the fifth and last group includes fasting as a religious observance. One of the most interesting chapters in the thesis is devoted to a study of the temporary mental delirium which may be produced by enforced privation, as in cases of shipwreck without provisions. A *confrère* of the author, Dr. Maire, was one of the unfortunate sufferers in the shipwreck of the French vessel *Ville de Saint-Nazaire,* and a very full account is given of his narrative regarding the *délires d'inanition* observed by Dr. Maire both as a personal experience and as observed among his fellow sufferers. The mental conditions produced by abstinence from food are summarized as follows: 1. There is noticed an activity of the intellectual faculties, and particularly of imagination, if the abstinence has not been too prolonged, and especially if it is voluntary and habitual. 2. In cases where abstinence has been pushed to a greater degree, there is found a change in character and in conduct, which may express itself in the forms of irritability of temper, excessive egoism or selfishness, and even cruelty. At the same time there may also be present distinct intellectual disturbances, such as diminution or partial loss of memory and of volition and self-control, and a tendency to sudden and irresistible impulses which are of an instinctive nature. 3. In more marked or grave cases there may supervene nocturnal mental trouble, such as disturbance or loss of sleep, distressing dreams and nightmares, illusions and hallucinations of the senses, delusions and dangerous impulses. 4. Diurnal mental disturbances, when present, indicate a most serious and grave state of affairs. Such disturbances may take the form of agitated dreams, illusions, impulse, and delirium sometimes of an acute and dangerous type. 5. Finally, under the influence of hallucinations, of delirium, and of irresistible impulses, the patient may be impelled to deeds of danger and of violence, which may have bearings of medico-legal importance. In such cases the estimation of the person's responsibility should be naturally dependent upon the consideration of the mental disturbances present, and on their gravity. It is possible to establish a parallel between the mental state resulting from abstinence and that from self-intoxication. The differences met with are but slight; the same general alterations and disturbances of intelligence, of morality, and of conduct, the same nocturnal disturbances, and in marked cases the same diurnal mental troubles are found in both classes of cases. Clinical and experimental facts accord in showing that the phenomena of self-intoxication exactly resemble those resulting from abstinence and deprivation of food.

Apomorphine in Acute Alcoholic Delirium.—The *Canadian Practitioner* for December, quoting Merck's *Archives*, says that Tompkins calls attention to a new use to which he has several times successfully put apomorphine hydrochloride. He says that in cases of acute alcoholism with delirium it "gets in its work in minutes, whereas it takes hours for bromides, chloral, and the like to have effect." He considers it far superior to morphine in such cases, as it eliminates the poison, while morphine dries up the secretions. Its use is, however, generally contraindicated in genuine cases of delirium tremens, because there is usually weakness of the heart. In one case the author, being called about midnight to see a man in convulsions, from his knowledge of the man's habits and the odor of liquor in his breath, easily made the diagnosis, and he at once injected hypodermically a tenth of a grain of apomorphine hydrochloride. In four minutes free emesis occurred, rigidity changed to relaxation, and excitement to sleep.

Paralysis in Whooping-cough.—According to the *Canadian Practitioner* for December, an inquiry into this condition has been carried on by Homind, and published in a Paris thesis. Paralyses in whooping-cough he finds to be infrequent, appearing usually in severe cases occurring in young children. He divides them into three classes: 1. Paralysis of cerebral origin; the most frequent, constituting about forty per cent. These may assume the form of coma or of apoplexy, and may be of the hemiplegic type. Epilepsy may follow as a complication, or aphasia. In rare cases the special senses may be affected, giving rise to hemianopsia or blindness. 2. Bulbar paralysis. Sometimes there is a simple paraplegia, and sometimes the picture resembles Friedreich's or disseminated sclerosis. 3. Paralysis of peripheral origin. A few cases of this form are known. These paralyses may be traced to two causes, infection and vascular strain.

The Restlessness of Old Age.—Dr. Clement Dukes (*British Medical Journal*, December 2d) describes a condition in old people who are frequently a burden to themselves, and who occasion considerable distress to the friends who look after them by their incessant restlessness by day and by night. During the day they are never quiet. If they sit down they want to get up and walk about. Then they sit down, and in a few minutes are on the move again. This want of peace is very wearing to themselves and those who live with them. During the night they are merely restless, and toss and turn about in bed; or sleepless; or they have to sit up in bed or in a chair, with dyspnœa. Consequently they arise in the morning unrefreshed and unrested to resume the day performance.

This arises, in the author's opinion, from the gradual age-failing of the scavenger organs. Their incompetence fails to depurate the blood sufficiently. And this lack of perfect removal of the products of wear and tear occasions increased arterial tension. Hence the restlessness.

The administration of carminatives, sedatives, or digitalis merely aggravates the condition. The remedies which bring calm and peace, and remove all the discomforts, are those which relieve the arterial tension, such as nitroglycerin, one one-hundredth of a grain, and even better still, because it requires to be taken less often, erythrol tetranitrate, half a grain to a grain.

The "Laveran Body" in Birds and the Mosquito Theory of Malaria.—Lieutenant-Colonel E. Lawrie (*Indian Medical Gazette*, November), of the Indian medical staff, as the result of experiments performed on birds in the laboratory of the Hyderabad Medical School between September, 1898, and September, 1899, arrives at the following conclusions:

"1. The so-called 'halteridium' is the halter-shaped, and the so-called 'proteosoma' is the spherical-shaped, Laveran body in birds.

"2. No form of the Laveran body, avian or human, can be isolated or cultivated. All the known facts show that it is not a parasite, and as it fulfills none of Koch's canons, it can not be a pathogenic organism.

"3. Neither the plasmodium nor the proteosoma possesses the function of reproduction.

"4. Our experiments show that in birds the Laveran body, proteosoma, is a product of the blood, developed in the red blood cell, and not producing any deterioration in the health of the bird. It can not be reproduced by inoculation from bird to bird, is not infective, and does not multiply in the blood.

"5. Seeing that the Laveran body, the plasmodium or the proteosoma, is not a parasite, and that it can not be reproduced by experimental inoculation, it is unlikely that it can be reproduced by a mosquito bite. There is no ground for supposing that the passage of the proteosoma through the mosquito, granting this to be possible, could render it infective. If it could, the true cause of malaria would be the mosquito and not the 'parasite': this is, of course, absurd.

"6. Ross's mosquito theory of malaria is based on a series of assumptions and not on facts. One of these is the assumption which was originally put forward by MacCallum, of Baltimore, United States of America, and adopted without examination by Manson and Ross, that the flagellum is the male and the hyaline cell the female element of generation in the Laveran body in birds. Now, the plasmodists say that the rosette is a sporulating body, and that the formation and liberation of spores by the rosette is the method by which the reproduction of the Laveran body is effected. Our discovery of the rosette in crows' blood proves that MacCallum's assumption at all events is false, since it is evident that even if the proteosoma were a parasite, it could not be reproduced in two entirely different ways. On the other hand, the rosette is proved not to be a sporulating body in birds' blood by the fact that its 'spores' are a great deal larger than the speck in the red cell, which is the form in which the proteosoma first appears in the blood. Another of Manson's and Ross's unwarranted assumptions is that it is possible to infect birds with proteosoma by mosquito bites. To have made his position tenable, Ross ought first to have shown that the birds he believed he had infected with proteosomata by mosquito bites would not have got them if they had not been bitten by mosquitoes at all. Our experiments have clearly shown that you can never be certain that birds of the class in which proteosomata are found—such as sparrows, crows, and pigeons—will not develop them spontaneously, and Ross's manifest ignorance of this fact entirely vitiates his inoculation experiments, as well as the conclusions he has drawn from them."

Upon this paper the *Gazette* comments editorially as follows:

"We have much pleasure in publishing in this issue the results of a long series of careful experiments done in the laboratory of the Hyderabad Medical School under the direction of Lieutenant-Colonel E. Lawrie, I. M. S. Though the mosquito malarial theory is fascinating and has been accepted more or less by many medical men, it is no reflection on them if we say that the majority of medical men are not in a position to judge for themselves; for instance, it has been already pointed out in these columns that assumptions are not facts, and it is well known that, although there are many facts in favor of the malarial mosquito theory, yet it is still little more than an hypothesis, and there are several gaps in the theory which are by no means filled up, even by the researches of the Italian observers. Therefore we welcome intelligent criticism, such as the Hyderabad Laboratory sends us, and their conclusions deserve the fullest consideration at the hands of workers at this fascinating theory. We are sure that Dr. Lawrie would only be too glad to offer the use of his laboratory to any medical men who wish to confirm or, it may be, confute his results. In fact, the government might, with very little cost or trouble, order a small skilled committee to assemble at Hyderabad to examine the specimens and test the results of the work done in this subject. Such a committee could easily be formed from medical officers of both services in Madras; there are several men there who have done work in this direction, and who are skilled microscopists."

The Operative Treatment of Uterine Fibroids.—Dr. F. A. Lockhart (*American Gynæcological and Obstetrical Journal*, December, 1899) sums up a paper read before the Vermont State Medical Association as follows: 1. A uterine fibroid should not be interfered with unless it is giving rise to serious symptoms, be they mental or physical, notwithstanding the statement of one gynæcologist (Gordon, *American Journal of Obstetrics*, vol. xxxi, 1895) that he removes all fibroids which he meets with in practice, whether they are causing trouble or not. 2. Curetting is merely a palliative measure, as is also, in many cases, ligation of the uterine arteries. 3. Removal of the appendages ought to be merely a *dernier ressort*, as it practically never cures and does not always even relieve. 4. The operation of selection should be either total hysterectomy or else myomectomy. 5. Myomectomy is to be chosen (*a*) where the tumor is submucous and pedunculated; (*b*) where it is subserous and either has a pedicle or a well-defined border; (*c*) where several small nodules lie immediately beneath the peritonæum. 6. Total hysterectomy is indicated (*a*) where the tumor is submucous and non-pedunculated, and the cervix can not be dilated sufficiently to allow of morcellement; (*b*) where the tumor is either interstitial, large and subserous without a pedicle, soft, fibrocystic, or undergoing degeneration; (*c*) where the tumor is complicated by diseased annexa.

Rat's Tail Sutures.—M. E. Janes (*Gynécologie*, October 15th; *Lyon médical*, November 5th) says that in a rat's tail are found a number of tendons, from six to seven inches long, very fine yet very strong. They are obtained as follows: At some distance from the root of the tail the skin is cut in a circular fashion and reversed like a glove. By scratching with the nails in the neighborhood of the last vertebra a delicate bundle of from five to six tendons can be detached the whole length of the tail, from each one of which two or more threads can be drawn. The author says that if the dissection has been properly made, the hands as well as the rat's tail having been previously sterilized, the threads are aseptic and may be used as they are. They may be preserved dry or in alcohol. They are well absorbed, and they form a very practical suture for delicate, especially ophthalmic, surgery. They are easily threaded.

Glycosuria in an Infant Twenty-two Months Old.—M. Le Gendre (*Gazette hebdomadaire de médecine et de chirurgie*, November 23d) recently reported to the French Society of Pædiatrics the case of an infant twenty-two months old, the son of parents respectively gouty and arthritic, which, in spite of a considerable appetite, had been wasting for some time. A general examination disclosing no cause, M. Le Gendre examined the urine, and found 13.87 grammes of sugar to 750 grammes of urine. The diabetes was acute, acetonuria ensued, and death by coma occurred in about two months.

Vicarious Menstruation from the Gums.—Dr. W. George Beers (*Dominion Dental Journal*, November) reports that he has had a very complicated case of contraction of the superior and inferior teeth to contend with in a patient aged seventeen, which afforded an opportunity for observing a very interesting case of vicarious menstruation. The day after he had taken the impression for models, the patient came by appointment, and he noticed such an effusion of blood, about the gingival margins especially, and the gums generally, that at first he suspected that the blood in the mouth came from the lungs. But upon careful observation there was no mistake about the matter, and the surprise was the greater because the gums were healthy and the teeth free from caries or calculus. A week afterward Dr. Beers inserted the apparatus for expanding the superior arch. It was worn with comparative comfort until the periodical return of the menses, when the margins of the gums—which the plate did not touch—were inflamed, as if by the rough inner edges of a badly fitting vulcanite plate, and the bleeding reappeared. Upon examination of the apparatus there was no exciting mechanical cause to produce such a result, and he was at a loss for an explanation until he found that the blood was non-coagulable, and that the same symptoms of hysteria were present as had been observed the previous month. The author then made it his duty to extend his inquiries, and learned that the condition was regularly present each month, associated with severe migraine, and that the bleeding began and ceased coincidently with the recurrence and cessation of menstruation. At the time of writing the ninth observation had been made.

Recovery after Drinking Aconite Liniment.—Dr. W. A. Potts (*Edinburgh Medical Journal*, December) records the case of a man, seventy-five years of age, who accidentally drank half an ounce of the official aconite liniment, B. P. The treatment consisted of a tumblerful of warm water with a teaspoonful of mustard in it, followed almost immediately afterward by another tumblerful of warm water containing a tablespoonful of salt. These were promptly administered by his wife and were followed by free emesis and purging.

Dr. Potts's treatment, on arrival, consisted in getting the patient to bed with hot bottles, and in the administration subcutaneously of a fortieth of a grain of strychnine, followed after an unspecified interval by another similar injection and, when the vomiting had stopped, by an ounce of whisky *per os*. The poison had been taken at 3 A. M., and by 9 A. M. the patient was well enough to eat his breakfast. The next day he was all right.

Letters to the Editor.

UNPLEASANT EFFECTS OF ORTHOFORM.

Clayville, N. Y., *December 6, 1899.*

To the Editor of the New York Medical Journal:

Sir: In the issue of the *Journal* for November 25th Dr. G. E. Decker, of Davenport, Iowa, cites two cases of dermatitis following the use of orthoform which are very interesting, as they go to prove that there is still much to be learned in regard to this peculiar drug. Aside from the following case, invariable good results have followed the use of orthoform in my practice. My experience was similar to Dr. Decker's and his article in your journal threw some much-needed light on this case, inasmuch as I was in doubt as to the true character of the disease.

A machinist, twenty-eight years old, came to my office with suppurative cellulitis of the right forearm following an injury and infection of the hand. The suppurating foci were slit up and thoroughly cleansed with peroxide of hydrogen and 1-to-2,000 bichloride solution, and dressed with orthoform powder. These dressings were repeated every day for a week, the arm doing well. At the end of this time there appeared a peculiar dermatitis surrounding the incisions, which spread rapidly until nearly the whole arm was involved. The surface appeared red, swollen, and covered with small confluent blisters containing a sticky, serous fluid. After a few days many of the blisters coalesced and broke, drying up and leaving a yellowish crust. A peculiar branny odor emanated from the involved surface. There was no pain on pressure or manipulation, but the most intolerable itching was constantly complained of, and at one time the patient became nearly delirious from this cause. There was some slight elevation of temperature.

After many remedies had been tried without any result, hot applications of witch hazel were used, when the itching immediately ceased and the dermatitis slowly disappeared.

During the first stage of this disease the appearance was very similar to that of the dermatitis caused by *Rhus toxicodendron* poisoning, but as it progressed all similarity ceased. H. H. Wilson, M. D.

Book Notices.

Traité de médecine. Deuxième édition. Publiée sous la direction de MM. Bouchard, Professeur de pathologie générale à la Faculté de médecine de Paris, et Brissaud, Professeur agrégé à la Faculté de médecine de Paris, etc. Tome I. Par MM. L. Guignard, A. Charrin, P. Le Gendre, G.-H. Roger. Avec figures dans le texte. Tome II. Par MM. A. Chantemesse, F. Widal, L.-H. Thoinot, L. Guinon, E. Boix, A. Ruault, W. Œttinger, L. Tollemer. Avec figures dans le texte. Paris: Masson et Cie., 1898.

The first change which is to be noticed in this new edition is that the name of Charcot is now missing from the editorial board, though retained as a sort of memorial on the title-page. The editors of the new edition appreciate what a loss to medicine the death of Charcot has been, but they have endeavored to carry out, as his pupils, the ideas which were his and have tried to revise and complete this new work without changing its general plan and scope.

The first volume contains a general survey of bacteriology and the pathology of infection, including diseases common to men and animals, and the diseases classed as disorders of nutrition; the most important of the latter are gout and diabetes. Guignard has found but little that is novel to add to the general subject of bacteria. He clings very closely to the older views of the complete identity of the bacterial species, and evidently looks with some doubt on the recent reports of Buchner concerning the close resemblances between the *Bacillus anthracis* and the *Bacillus subtilis* when cultivated on suitable media. However, he admits that very remarkable alterations can be produced temporarily in the bacterial economy, especially in the more easily observable points of difference, such as the production of gas, the formation of pigment, etc. Charrin, in his section on the general pathology of infection, has found much to change and much that is new to add. Almost entirely new ideas have arisen and have been accepted during the seven years between these two editions, on the theory of the interaction of toxine and antitoxine, on the localization of the toxic action on the cells, and on the germicidal action of the tissues. We miss, however, a full discussion of the "lateral-chain" theory of toxine action recently broached in Germany.

The section on diseases of nutrition has been much altered and brought more closely in line with the present pathological trend, though it seems strange to see a general heading of "acid dyscrasias" to include rickets, osteomalacia, etc.

The most important article in the second volume is that by Chantemesse on typhoid fever, which is, indeed, a model of accuracy and completeness. All the recent studies which have been made under the stimulus of the discovery by Widal of the agglutinative property of typhoid serum toward typhoid bacilli have been considered and reviewed, and nothing of importance seems to be missing. We regret that the same praise can not be given to Widal's own article on malaria, which might well have been written ten years ago, so little has it been brought up to date.

The chapters on diphtheria and erysipelas, on the other hand, are excellent, and prominence has been given to the modern forms of serum treatment. While the use of an antitoxic serum in diphtheria has been followed by such a great diminution in the mortality, an equal advance can not be recorded in the use of a streptococcus serum in erysipelas. At present, after a trial of some years, the actual change in the mortality statistics is so slight as to be entirely within the limits of error due to the moderate number of cases observed and the natural variations in the severity of the disease. It must be said of the work that the two volumes so far issued give great promise for those yet to be published and show that the revision has in many cases been most thorough.

La Riunione per prima delle ferite. Con special riguardo alle superficie suppuranti. Ricerche sperimentali e risultati clinici. del Dr. G. Pascale, Professore pareggiato della R. Università. Con due tavole. Napoli: Pontieri e Velardi. Pp. 3 to 40.

Much attention has recently been paid to the conditions of wound healing, the value or harmfulness of antiseptic solutions, and the possibility of obtaining an absolutely sterile field during an operation on a non-infected patient. The author of this monograph has tried to answer these and other questions. He rightly criticises the results obtained by Schimmelbusch when the latter infected fresh incisions in susceptible animals by fresh and virulent cultures of the anthrax bacillus. These germs were found to be carried into the circulation in a few minutes and quickly produced death in the animals. Such an infection with a pure culture is not met with clinically, and no general conclusions can be drawn from experiments of the sort in question. The problem has recently been solved by showing that, if a fresh incision is infected by dirt, scrapings from clothing, bits of cloth, or similar infectious material, not only do the germs enter the blood only after some hours' time, but they enter in such small numbers at a time that they can easily be disposed of by the tissues. Another point made by Pascale is that the ordinary pus cocci may circulate in considerable numbers in the blood for a short time without setting up any reaction, a thing impossible in the case of anthrax bacilli. He finds that all wounds are infected to a certain degree, even those commonly called sterile, and that a moderate infection is perfectly compatible with primary union of the wound without any noticeable elevation of temperature. The recent strivings for complete asepsis by the use of sterile gloves have indeed removed one formidable source of infection, the hands of the surgeon and his assistants, but they do not alter the fact that the edge of the wound is bordered by the infected skin of the patient. If the surgeon can not absolutely sterilize his hands by prolonged scrubbing, how much more difficult it must be to remove the germs from an axilla or a scrotum!

In infected operative wounds it is of distinct advantage to wash them out with an antiseptic solution, says the author, as the virulence of the germs present is distinctly reduced and the danger of their setting up a progressive infection is minimized, even though their absolute destruction is not accomplished. This result is best obtained if the antiseptic is used in the first twenty-four hours. Progressive phlegmonous inflammation can always be avoided if the wound is properly opened and irrigated. A few histories of cases are appended as illustrations, and a table of the results obtained on animals closes this interesting monograph.

Innesti ossei. Risultati sperimentali e ulteriori. Ricerche istologique pel Dott. Giovanni Pascale, Coadiutore all' Istituto di pat. proped. chirurg., etc. Napoli: R. Pesole. Pp. 5 to 57.

The results of the author's experiments on bone grafts are that the best hope lies in the filling of the gap by bone formation from the periosteum; that all fragments of bone separated from the periosteum, as well as all trephine buttons, undergo necrosis first and then may be partly absorbed and partly regenerated, the regenerative process beginning in the uninjured bone outside of the fragment and extending only a short distance into the latter. Decalcification of the button before replacement is of no value. The remains of the necrosed button or a metallic plate may be firmly encapsulated in the bony and fibrous tissue and perfectly protect the soft parts beneath.

Conferencia sobre a febre amarella realizada pelo Dr. Domingos Freire.

The lecture contained in this pamphlet is devoted to a rather sharp criticism of the contentions of Sanarelli in regard to the bacillus discovered by him in the bodies of the persons dead of yellow fever, the so-called *Bacillus icteroides.* No new facts are brought forward, but the writer repeats his allegations for the coccus discovered by himself, and ends in a bitter personal attack on Sanarelli because he inoculated hospital patients with pure cultures of the *Bacillus icteroides* and thus produced very severe yellow fever. Dr. Freire holds that such a procedure is cruel and entirely unjustifiable, inasmuch as the specific effect can be observed in animals.

BOOKS, ETC., RECEIVED.

Progressive Medicine. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, etc. Volume IV. December, 1899. Diseases of the Digestive Tract and Allied Organs, the Liver, Pancreas, and Peritonæum—Genito-urinary Diseases in the Male, and Syphilis—Fractures, Dislocations, Amputations, Surgery of the Extremities, and Orthopædics—Diseases of the Kidneys—Physiology—Anatomy—Hygiene—Practical Therapeutic Referendum. Philadelphia and New York: Lea Brothers & Co., 1899. Pp. vi–17 to 408.

The Cost of Living as Modified by Sanitary Science. By Ellen H. Richards, Instructor in Sanitary Chemistry in the Massachusetts Institute of Technology. First Edition. First Thousand. New York: John Wiley & Sons. Pp. 121. [Price, $1.]

Operations-Vademecum für den praktischen Arzt. Von Dr. Edmund Leser, Professor an der Universität Halle, A. S. Mit 144 Abbildungen. Berlin: S. Karger, 1900. Pp. 190. [Preis, M. 5.]

Report of the Commissioner of Education. For the Year 1897–1898. Volume I, containing Part I.

Transactions of the American Otological Society. Thirty-second Annual Meeting, July 18, 1899. Volume VII, Part II.

The Ætiology and Classification of Cystitis. By N. Senn, M. D., of Chicago. [Reprinted from *International Clinics.*]

The Excision of High Rectal Carcinoma without Sacral Resection. By N. Senn, M. D. [Reprinted from the *Philadelphia Medical Journal.*]

Thyreoid Extract—A Review of the Results Obtained in the Treatment of One Thousand and Thirty-two Collected Cases of Insanity. By William Mabon, M. D., and Warren L. Babcock, M. D., of the St. Lawrence State Hospital, Ogdensburgh, New York. [Reprinted from the *American Journal of Insanity.*]

The Value of Hospital Records. By William Mabon, M. D. [Reprinted from the *American Journal of Insanity.*]

Some Points in the Diagnosis of the More Common Forms of Nasal Obstruction. By Charles N. Cox, M. D., of Brooklyn. [Reprinted from the *Philadelphia Medical Journal.*]

Creosote in Tuberculosis. By S. Goldstein, M. D. [Reprinted from *Gaillard's Medical Journal.*]

Observations on Rhythmic Action. By E. W. Scripture, Ph. D., of Yale University. [Reprinted from *Science.*]

Miscellany.

The Resistance of Microbes to Temperature.—Dr. Felix Vitale (*Medical News*, December 2d) concludes a very interesting paper on this subject as follows: We may say that the temperature exerts an influence on microbes which bears a direct relation to the media in which they are being cultivated, and the resistance they offer is just so much greater as the media on which they live, whether natural or artificial, are favorable to the vitality of the microbes.

An Indian Description of the Difference between a Carbuncle and a Boil.—Dr. Charles Milton Buchanan (*St. Louis Courier of Medicine*, November), in an exceedingly interesting article on Some Medical Customs, Ideas, Beliefs, and Practices of Snohomish Indians of Puget Sound, says that among these Indians carbuncle used to grow to an inordinate size, was very common, and was frequently fatal. One old Indian described it to him as a "big boil that was not a boil, but is bigger and has many eyes instead of just one eye, as the boil has."

The Grinding Tyranny of the Sanitary Oligarchy.—The *Southern Medical Journal* for December, 1899, gives utterance to the following wail from the downtrodden public:

"We have boiled the hydrant water;
 We have sterilized the milk;
We have strained the prowling microbe
 Through the finest kind of silk;
We have bought and we have borrowed
 Every patent health device,
And at last the doctor tells us
 That we've got to boil the ice."

Vicarious Philanthropy.—Dr. H. V. Sweringen, in a letter on Physicians and Charity published in the *Cincinnati Lancet-Clinic* for December 16th, discoursing on the simple methods so often practised by the tender-hearted laity of being charitable at other people's, and especially physicians', expense, says: "I have frequently been called into wealthy Christian (?) families, whose annual foreign missionary contribution was quite respectable in amount, to treat the 'hired girl' or 'servant.' Before seeing her, the dear, good Christian mistress of the house was certain to remind me that the girl was poor, entirely destitute, an orphan, had no one to depend on but herself; that her wages were barely sufficient to keep her when able to work, to say nothing of her inability to earn any while sick, etc.; that she was an excellent girl, of good moral character, and a *splendid worker;* that she was very desirous of keeping her, for good girls were very scarce now, but that she could not possibly keep her if she was going to be sick any length of time. 'Poor girl! I feel very sorry for her, but I don't know what I'm to do with her sick on my hands; if she is to be sick more than a day or two, doctor, can't she be taken to the hospital, or to the county asylum? I can't afford to keep her if she is sick. You do what you can for her, doctor; try and get her up as soon as possible, and she may be able to pay you some day.'

"Thus are the remarks of the mistress ostensibly in the behalf of the 'poor hired girl,' but it does not require a very great stretch of the imagination to conclude that they are made principally in her own behalf, with the view of getting as much service from the doctor as possible, with the implied understanding that she would be in no way responsible for the same, and with the implied hope that the doctor would not expect the 'poor hired girl' to be.

"The good (?), kind (?), charitable (?), Christian (?) mistress thus succeeds in securing professional services, and, perhaps, also the medicine, if the physician furnishes his own remedies. In every case, however, into which my curiosity prompted me to inquire every cent of money paid for medicine and every minute of time lost by sickness and failure to work was deducted from the 'poor girl's' wages when, after recovery, she resumed her work. The physician may be as impecunious as his patient, but that makes no difference to these charitable (?) Christians (?). Such Christianity is damnable. Hell is full of just such Christians. They are so close that it would be impossible to introduce a greased flaxseed into their '*recti rectorum.*'

"No wonder that girls go to the bad when they find so little of the milk of human kindness in Christian families!

"I used to think it was the 'whole thing' to give a dollar to the tune of 'Greenland's icy mountains,' but I will never give another d—d cent to it until America's abused, poverty-stricken hired girls are better treated by our Christian (?) civilization (?). I would much prefer to contribute five dollars to that other tune—

"'Alas! for the rarity
 Of Christian charity
  Under the sun.
 Oh, it was pitiful,
 Near a whole city full
  Home she had none.'"

Specialism Extraordinary.—The *American Medical Compend* for December quotes Dr. Kyle as saying:

"We need more general medicine in specialism. There is such a thing as the specialist becoming too special, as is illustrated in the somewhat exaggerated story of the man who consulted the surgeon for the relief of a badly injured thumb. The surgeon looked wisely at the thumb and said: 'My dear sir, that is a badly injured thumb—you must seek Dr. Blank at once.' 'But,' said the patient, 'aren't you a surgeon?' 'Oh, yes,' said the doctor, 'but my specialty is the other thumb.'"

The Other Side to the Automobile.—The *Medical Age* for December 10th, in an editorial note, says of the physician's automobile:

"A physician living in a picturesque part of England has recorded his experiences with the autocar. Its advantages for the physician he considers obvious. It saves time and fatigue; it can be got ready in about the time that a collar can be put on a horse; it does not tire, and it will come out afternoon as well as morning; it is not eating except when at work. At the same time an extract from this physician's diary shows that the automobile is not all that it should be; for instance: July 11th, changed battery. July 12th, wheels off; ball broken; new asbestos joint. July 23d, chain came off. July 24th, chain adjusted by engineer. July 25th, front wheel to works; split cone. August 4th, brake catch broken. August 11th, changed battery. August 12th, chains came off. August 14th, ditto; new chains (English). August 22d, countershaft off; squeaking. August 29th, changed battery. September 15th, water tube repaired; leaking. September 16th, changed battery. September 20th, ditto. September 20th, chains adjusted. September 21st, car to works, ten miles off; sundry repairs. September 22d, ditto; new belt. Had been in a bit of a puzzle here. Car would not take high-speed belt. Found at last that carrier did not carry slow-speed belt off working pulley, consequently on putting on fast speed I was industriously trying to run the car at two speeds at the same time—with unsatisfactory results. October 3d, china insulator worked loose; just managed to get car home. New insulator. October 8th, changed battery. October 10th, exhaust spring eased. October 17th, changed battery; cells out of order. Something better than this will have to take place before the automobile will displace the doctor's horse."

Practical Native Sympathy for the Wounded Soldiers in South Africa.—The contagiousness of civilizing influences is well shown by the correspondent of the *British Medical Journal* for December 9th who, under the heading The Sympathy of the "Brown People," says: "A very touching instance of the quiet sympathy of the colored people ought to be mentioned. A largely attended meeting of colored men was held at Stellenbosch, a very hot Bond centre, but where the brown people are enthusiastically loyal, to consider the best way of helping the imperial authorities, and it was decided to forward regularly supplies of strawberries and other fruit to the hospital. Stellenbosch is a large fruit-producing centre, and most of the colored folk have their little gardens. No white man was present at the meeting, and the action was absolutely spontaneous."

La Soudanite, a Newly Described African Disease.—According to the *Southern Medical Journal* for December, the School of Tropical Medicine of England is investigating a strange mental disorder that affects the white men in the tropics. The incident that is directly responsible for bringing attention to this trouble is the latest military scandal in France. Captain Vaulet and Captain Chanoine, in the heart of the French Soudan, fired upon the flag of their country and also killed two of their fellow officers and a part of their escort; their object, it is said, being to create an empire in the heart of the Dark Continent. Very little is known of this malady, though it is supposed by the scientists of Europe to be a form of insanity caused by the tropical heat and malaria. According to the best description given of the disease at present, its first symptoms are a strong form of ennui and mild fever. A moral and mental derangement follows, which assumes different phases in different individuals. One may be so affected that he will shout and yell and fire off his pistol repeatedly at any object that seems to disturb him. In other cases the victim may insist on going about clad in dark, heavy clothing in spite of the heat. In every instance, however, the sufferers become erratic and irresponsible and are possessed of a frightfully savage temper. Even men who are the mildest mannered persons under ordinary circumstances develop intense quarrelsomeness under the influence of this strange disease. Several French and English physicians have described instances in which whole companies have been afflicted with *la Soudanite*, and express the opinion that it is epidemic. They have known of different occasions when entire expeditions have stopped in the desert of Sahara and wasted valuable hours in a senseless dispute over the most unimportant matters. While the disease may possess unique features when seen in Africa, it is undoubtedly practically the same ailment that often rages in other countries. In Asia it is often seen and is of particularly frequent occurrence in the Philippines, where "running amuck" is a common enough incident. Although not generally known, the possibility of the breaking out of such a disease among the American troops has been seriously considered by the government, and an expert has been appointed to make special study of the question in hope that he may be able to discover a remedy that may be used should the trouble appear among our soldiers. In the same manner, the English government has assigned physicians to study the curious malady.

The Editorship of the Ufficiale Sanitario, Rivista d'Igiene e di Medicina Pratica.—We learn from Naples that Professor Alfredo Rubino, whose conduct of this periodical has been eminently praiseworthy, is compelled by the increase of professional and professorial labors to relinquish the editorship.

What Constitutes a Surgical Operation?—The careful definition of this term is evidently much to be desired, for we learn from the *British Medical Journal* for November 11th that even nail-cutting may be judicially so declared. Some time ago, says the *Journal*, a German court had to adjudicate on the question whether corns constitute a disease. A still more abstruse problem has recently engaged the attention of a Vienna tribunal. A medical practitioner of that city, having occasion to operate, very properly trimmed his nails as a preliminary. In doing so, however, he cut his finger, but was nevertheless able to perform several operations on the same day. The wound became infected, and the practitioner himself had to be operated on. He was thus disabled for twenty-one days, and therefore claimed five florins ($2.50) a day from an accident assurance company. The company repudiated liability, on the ground that, according to its bylaws, no claim could be entertained for an operation performed by a medical practitioner on himself. The question whether nail-cutting is a surgical operation appears to have proved too much for the judicial intellect, for, after hearing arguments on both sides and suffering much vexation of spirit, the court reserved its decision. The *Journal* does not presume to offer any help toward the solution of so subtle a question. It ventures, however, to submit that, if nail-cutting comes within the sphere of operative surgery, *a fortiori* shaving must do so, for that procedure was once among the duties of a surgeon. So well was this recognized in some countries that at the beginning of the present century some English surgeons were summarily dismissed the Danish naval service for refusing to act as barbers to the crews of their ships.

The Need of a Country Branch for the New York Orthopædic Dispensary and Hospital.—In concluding his forthcoming annual report, the surgeon to the hospital, Dr. Russell A. Hibbs, will say in substance:

It is because of the perfection of the mechanical means now used that the time seems opportune for taking the next step and placing these patients in surroundings where those means may be most effective. As the condition of the general health measures in most instances the success of the mechanical treatment, the relief of the joint remaining permanent or otherwise as is the general constitution, it is in consideration of this matter that the answer to the question lies.

The principle above stated is well recognized by both the profession and the public at large as applied to the treatment of tuberculosis of the lung. Evidences of this are seen in the work that is being done both in this country and in Europe in establishing sanitariums in the best atmospheric surroundings. By such means the number of patients cured will undoubtedly be greatly increased. This being true in regard to the disease when in the lung, it is still more true in the treatment of the same disease of a joint, in which the prospects of recovery are so much better.

That it is unwise to place a healthy child in the wards of a hospital for a long time is recognized by those who understand the essentials of health; and they will no less recognize the error of thus confining a child suffering from joint tuberculosis, a disease peculiarly characterized by its destructive effect upon the general constitution, and depending for its cure in all cases so largely upon reestablishing the best possible conditions of the general health. Neither should these children be sent back to their home surroundings.

There is but one solution to this problem. Establish a place in the country, in a healthy locality, near the city, where the patients with joint tuberculosis may be sent and remain until they are cured. The percentage of cures would undoubtedly be greatly increased, their permanency secured, and the duration of the treatment much shortened.

At the same time the education of such children may be accomplished. While this work is now carried on in the hospital to a degree of much usefulness, it is of necessity incomplete, for these patients must go home in a comparatively short time. From the nature of the disease it is also unwise, even when possible, for children so suffering to spend hours each day in the atmospheric surroundings of a crowded city schoolroom. They may also be taught an occupation, and thus be enabled to return with their health restored and an education sufficient to make them self-supporting men and women.

By this addition to the work, the equipment of the institution would become equal to the demands made upon it. It would then be necessary for this class of patients to remain in the hospital but a short time for the adjustment of apparatus, etc., when they would be sent to the country, thus making room for the admission of those coming to us now suffering from the deformities of non-tuberculous origin, who are in need of hospital treatment for short periods, but who in the majority of instances must be turned away.

The Durability of the Plaster-of-Paris Jacket.—At a meeting of the Section in Orthopædic Surgery of the New York Academy of Medicine held on November 17th Dr. Stokes reported a case of Pott's disease in which the plaster-of-Paris jacket had been applied anew seven times, at intervals of from eight to fifteen months, and without causing pain or discomfort, although at the last application it was found that a small stone had made its way under the jacket and caused an erosion. This, however, had healed in a few days. Dr. Townsend said that he had known plaster jackets to be worn for two years.

The Craig Colony for Epileptics.—A board of consulting physicians and surgeons has been constituted as follows: *Neurologists.*—Dr. M. Allen Starr and Dr. George W. Jacoby, of New York, Dr. Henry Hun, of Albany, and Dr. James W. Putnam, of Buffalo. *Surgeons.*—Dr. Charles McBurney, of New York, Dr. Roswell Park, of Buffalo, and Dr. John W. Whitbeck, of Rochester. *Physicians.*—Dr. Charles E. Jones, of Albany, Dr. Charles Cary, of Buffalo, and Dr. William S. Ely, of Rochester. *Orthopædic Surgeons.*—Dr. Henry Ling Taylor, of New York, and Dr. Louis A. Weigel, of Rochester. *Ophthalmologists.*—Dr. Lucien Howe, of Buffalo, Dr. Wheelock Rider, of Rochester, and Dr. George M. Gould, of Westfield. *Gynæcologist.*—Dr. Matthew D. Mann, of Buffalo. *Pathologist.*—Dr. Ira Van Gieson, of New York. *Bacteriologist.*—Dr. Harlow H. Brooks, of New York. *Psychologist.*—Dr. Boris Sidis, of New York. *Pathological Chemist.*—Dr. Christian A. Herter, of New York. *Dentist.*—Dr. Charles J. Mills, of Mount Morris.

Osteopathy Declared Unlawful in Pennsylvania.—The *Columbus Medical Journal* for November 20th states that the Medical Council of the State of Pennsylvania, decided, on May 24th, that the practice of osteopathy within the State was illegal, and that those engaged in it were amenable to the law.

The Chair of Pathology in the University of California.—According to the *Western Medical Review* for December 15th, Dr. E. A. Taylor, formerly of the Pepper Laboratory of Clinical Medicine, Philadelphia, has been elected to the chair of pathology in the University of California.

The Investigation of Beriberi.—According to the *Western Medical Review* for December 15th, Dr. Hamilton Wright, an alumnus of McGill University, and late registrar of the Royal Victoria Hospital, Montreal, has been commissioned by the British government to spend the next three years in the Straits Settlements investigating beriberi and other tropical diseases.

Osteopathy in Georgia.—According to an Atlanta dispatch in the *New York Times* for December 22d, Governor Candler on the 21st inst. vetoed a bill passed recently by both houses of the general assembly providing for the practice in the State of Georgia of osteopathy.

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